B&L Woodwaste Site
Pierce County, Washington

Compliance Monitoring Data Report
April 2016

Prepared for

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List of Abbreviations and Acronyms

Abbreviation/ Acronym	Definition
CAP	Cleanup Action Plan
CMDR	Compliance Monitoring Data Report
CMP	Compliance Monitoring Plan
Consent Decree	Consent Decree No. 08-2-10610-7
CPOC	Conditional point of compliance
CUL	Cleanup level
Ecology	Washington State Department of Ecology
Landfill	B&L Woodwaste Landfill
LSAq	Lower Sand Aquifer
µg/L	Micrograms per liter
OMMP	Operations, Maintenance and Monitoring Plan
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
Site	B&L Woodwaste Site
USAq	Upper Sand Aquifer
USEPA	U.S. Environmental Protection Agency

1.0 Introduction

This Compliance Monitoring Data Report (CMDR) summarizes the results of the April 2016 semiannual groundwater and surface water monitoring event for the B&L Woodwaste Site (Site). This CMDR was prepared for the B&L Custodial Trust in accordance with the Compliance Monitoring Plan (CMP), which comprises Appendix B of the B&L Woodwaste Site Operations, Maintenance and Monitoring Plan (OMMP; Floyd|Snider/AMEC 2013) and a 2014 memorandum that included additional groundwater monitoring of hydraulic containment (hereafter referred to as the Operations Recommendation; Floyd|Snider and AMEC 2014). The monitoring program is intended to support long-term compliance monitoring following implementation of remedy specified in the 2008 Cleanup Action Plan (CAP; Ecology 2008). The CAP was issued by the Washington State Department of Ecology (Ecology) under Consent Decree No. 08-2-10610-7 (Consent Decree). The CAP remedy is being implemented in phases in accordance with the Scope of Work included in the Consent Decree. Phases 1 and 2 consisted of remedy construction and have been completed. Phase 3 consists of the long-term operations, maintenance, and monitoring of the CAP remedy.

Phase 3 compliance monitoring is designed to meet the monitoring requirements specified in the Consent Decree and CAP and the substantive requirements of regulations issued pursuant to the Washington State Model Toxics Control Act and the Washington State Solid Waste Management, Reduction, and Recycle Act. Compliance monitoring is intended to regularly assess plume stability and trends in site groundwater and surface water, confirm the long-term effectiveness of the cleanup action completed at the Site, and eventually confirm compliance with cleanup standards at the point of compliance.

In this CMDR, groundwater elevation measurements and potentiometric contours, ditch surface water arsenic results, groundwater arsenic results from monitoring wells located in the Upper Sand Aquifer (USAq) and Lower Sand Aquifer (LSAq), and trends over time are reported. A more comprehensive report with additional discussion of remediation status, hydraulic containment, and other issues will be submitted as an annual report following the second semiannual monitoring event of the year.

1.1 CLEANUP STANDARD

The cleanup standard for the Site includes the cleanup level (CUL) to be met at the points of compliance specified in the CAP. The constituent of concern for the Site is arsenic; the CUL for arsenic in groundwater and surface water is 5 micrograms per liter (µg/L). A conditional point of compliance (CPOC) for soil, ditch sediment, groundwater, and surface water was established in the CAP at the B&L Woodwaste Landfill (Landfill)/cap perimeter (edge of waste). As noted in the OMMP, the plume of affected groundwater extends downgradient of the designated CPOC location; therefore, it is expected that a substantial period of time will be needed to achieve the CULs at the CPOC. Compliance monitoring during remedy implementation is designed to monitor plume stability in addition to attaining the cleanup standards for the Site.

1.2 COMPLIANCE MONITORING NETWORK

The compliance monitoring network described in the CMP includes 14 USAq monitoring wells, 4 LSAq monitoring wells, and 3 surface water sampling locations in the drainage ditch system adjacent to the Landfill. In addition to these locations, samples are being collected from other monitoring wells, piezometers, recovery wells, and surface water sampling stations in support of operations and adaptive remediation management. These additional locations include the following:

- Beginning in 2015, a fifth LSAq monitoring well (MW-40B) is being sampled to meet the monitoring objectives of the Operations Recommendation. MW-40B was initially monitored monthly with compliance monitoring well D-8B to confirm that leachate is being contained in the southwest corner. After one year of monthly monitoring, Ecology indicated on March 9, 2016, that both MW-40B and D-8B should instead be monitored quarterly, including semiannually for on-site analysis and semiannually for laboratory analysis in conjunction with compliance monitoring.
- Beginning with the October 2015 compliance monitoring event, two additional USAq piezometers (PZ-5A and PZ-6A) are being sampled with semiannual compliance monitoring in order to meet adaptive remediation monitoring objectives (Floyd|Snider and AFW 2015b).
- For the April 2016 monitoring event, monitoring well PD-140 was sampled in order to assess potential westward migration of arsenic into the wetlands north of the landfill.
- Several recovery wells located in the Wetlands Plume and Agricultural Field Plume (Floyd|Snider/AFW 2016) were also sampled during this event to provide information for adaptive management of the remediation program. Recovery well sample results are included in figures for this report to show current site conditions at the time of the April 2016 monitoring event; recovery well sampling results are expected to be discussed in the 2016 Operations and Maintenance Annual Report.

Locations for groundwater monitoring wells and surface water sampling points are shown on Figure 1.1.

1.3 METHODS

Groundwater and surface water samples were collected on April 20—22, 2016. Methods used in compliance monitoring, including water level measurements, water quality parameter measurements, groundwater and surface water sampling, equipment decontamination, and field quality control procedures, were carried out in general accordance with the CMP and the Sampling Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; refer to Appendix B of the OMMP).

Groundwater samples were submitted to Analytical Resources, Inc. for total arsenic analysis and surface water samples were submitted for total and dissolved arsenic in accordance with the analytical methods, reporting limits, sample collection, and sample preservation requirements

provided in the SAP/QAPP. As described in the SAP/QAPP, a Level 1 data validation was performed on all analytical results and is described in Section 2.2 of this CMDR.

2.0 Compliance Monitoring Results

The results of the April 2016 monitoring event are presented in this section. Deviations from the CMP and SAP/QAPP are noted where applicable.

2.1 WATER LEVEL MEASUREMENTS AND POTENTIOMETRIC SURFACE

Water level data for compliance monitoring wells and piezometers, showing head differences across the barrier wall and between the USAq and LSAq, are presented in Table 2.1. Potentiometric contour maps indicating inferred groundwater flow directions and horizontal hydraulic gradients for the USAq and LSAq are presented in Figures 2.1 and 2.2, respectively.

The potentiometric contours illustrated on both figures include measurements from selected monitoring wells and piezometers in accordance with the CMP in addition to measurements from the compliance monitoring network. Water levels in the North Pond and West Pond are shown for reference and not used in potentiometric contouring. Hydraulic containment status is described in the Annual Compliance Monitoring Report.

2.2 DATA VALIDATION

A Compliance Screening, Tier 1 data quality review was performed on arsenic data resulting from laboratory analysis. The analytical data were validated in accordance with the U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Superfund Data Review (USEPA 2014).

A total of 33 groundwater and 6 surface water samples were submitted, in two sample delivery groups, AZP6 and AZP9, to Analytical Resources, Inc. of Tukwila, Washington. For all sample delivery groups, the analytical holding times were met. The method blanks, matrix spike, and laboratory control sample recoveries, and sample/sample duplicate relative percent differences all met USEPA requirements.

No qualifiers were added to the analytical results based on the data quality review. Data were determined to be of acceptable quality for use as reported by the laboratory.

2.3 GROUNDWATER RESULTS

Field parameters and analytical results for the April 2016 groundwater monitoring event are presented in Tables 2.2 and 2.3, respectively. April 2016 arsenic concentrations are presented in Figure 1.1. Time-concentration plots[1] for the USAq and LSAq are presented in Appendix A. Laboratory analytical reports for the April 2016 monitoring event are included as Appendix B.

[1] The analytical detection limits used in site monitoring and reported in Appendix A have varied slightly over time. Non-detect results with detection limits of less than 5 µg/L (i.e., equal to the CUL) have been plotted at the detection limit. Non-detect results with detection limits greater than 5 µg/L have been omitted from the time-concentration plots to avoid inaccurate interpretation of trends.

Groundwater monitoring results are generally consistent with previous measurements. A brief summary of results is presented in this section. Additional discussion of remediation progress and compliance status will be presented in the Annual Compliance Monitoring Report.

2.3.1 Upper Sand Aquifer

Arsenic in USAq groundwater exceeded the CUL of 5 µg/L in all compliance monitoring wells except MW-31A. Total arsenic concentrations in compliance monitoring wells sampled in the USAq ranged from 2.7 µg/L to 1,200 µg/L. In the 6 months since the previous semiannual compliance monitoring event, concentrations of arsenic have decreased or remained nearly unchanged in nearly all of USAq wells that were sampled during that event. Notable concentration changes relative to the previous monitoring event occurred in three USAq monitoring wells (MW-15, D-8A, and MW-30):

- A sharp decrease in arsenic concentration at monitoring well MW-15 from 752 µg/L to 183 µg/L is attributed to increased rates of groundwater recovery in the vicinity, and reflects important progress in plume remediation.
- The increase in arsenic observed at monitoring well MW-30 from 139 µg/L to 170 µg/L is generally consistent with previously observed seasonal variation. The increase may also be a function of decreased rates of groundwater recovery in the vicinity. Monitoring well MW-30 has had an overall downward trend in arsenic concentrations since the onset of groundwater recovery.
- The increase in arsenic from 87.9 µg/L to 108 µg/L observed at monitoring well D-8A is consistent with the wide seasonal fluctuations that have typically occurred at this well since installation of the barrier wall, and represents a substantial decline from spring results in recent years. April results for D-8A ranged from 342 µg/L to 415 µg/L between 2013 and 2015. Monitoring well D-8A is located on the western edge of the Landfill in an area of apparent groundwater stagnation, where altered flow paths following installation of the barrier wall appear to have locally affected the groundwater arsenic concentration. Residual arsenic-contaminated shallow soils in the nearby ditch bank that may have been contributing to USAq groundwater contamination in this area were excavated in summer of 2015.

It is also notable that the arsenic concentration trend at PD-141 is no longer increasing based on the most recent result of 413 µg/L. Previous increases at PD-141 were attributed to possible plume evolution in the wetlands following installation of the barrier wall, groundwater recovery wells, and the Phase 2 Pilot Study injections in this area. The arsenic concentrations at PD-141 and PD-140 were relatively stable during this event, however, suggesting that plume migration is effectively controlled by groundwater recovery.

2.3.2 Lower Sand Aquifer

Total groundwater arsenic concentrations in two of the five LSAq wells (D-5L andD-6B) were less than 5 µg/L and consistent with previous measurements. The arsenic concentration at D-7B was

also near the cleanup level at 5.8 µg/L. Monitoring wells D-8B and MW-40B are located in an area where the Lower Silt Aquitard is absent and groundwater flows westward beneath the barrier wall. These two wells are screened at depths that make them suitable for monitoring containment of leachate. At D-8B, arsenic concentrations were unchanged at 10.9 µg/L during the October 2015 and April 2016 monitoring events. Arsenic concentrations have been decreasing or stable at D-8B during every monitoring event following an increase from 28.2 µg/L to 370 µg/L in April 2012. At MW-40B, the arsenic concentration was 8.0 µg/L. These results are consistent with continued effective containment of landfill leachate in this area.

2.4 SURFACE WATER RESULTS

Surface water results are presented in Table 2.4 and Figure 1.1. Historical trends in total and dissolved arsenic concentrations at the surface water sampling locations are plotted in Appendix A.

Consistent with the majority previous observations, total and dissolved arsenic were detected at concentrations slightly greater than the CUL of 5 µg/L in all of the surface water monitoring locations. Dissolved and total arsenic concentrations were relatively consistent between all surface water locations, with dissolved arsenic concentrations ranging from 8.0 µg/L to 9.0 µg/L and total arsenic concentrations ranging from 15 to 17 µg/L. The greatest increases in both dissolved and total arsenic occurred at SW-03 on the southwest corner of the landfill, where dissolved arsenic increased from 4.9 µg/L to 8.0 µg/L and total arsenic increased from 6.5 µg/L to 15 µg/L between the October 2015 and April 2016 monitoring events.

3.0 References

Floyd|Snider and AMEC (Floyd|Snider/AMEC). 2014. *Operations Recommendation for 2015 Memorandum*. 14 November.

_____.2013. *Operations, Monitoring, and Maintenance Plan.* Prepared for the B&L Custodial Trust. May.

Floyd|Snider and Amec Foster Wheeler (Floyd|Snider/AFW), 2016. *B&L Woodwaste Site Annual Compliance Monitoring Report, October 2015.* Prepared for B&L Custodial Trust, Olympia, Washington. March.

U.S. Environmental Protection Agency (USEPA). 2014. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.* EPA 540/R-94/013. February.

_____. 2004. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review Draft Final.* EPA 540-R-04-004. July.

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Tables

Table 2.1
Groundwater Elevations and Head Differences

Location	Aquifer	Date	Time	Groundwater Elevation (ft NAVD 88)	Vertical Head Difference: LSAq - USAq (ft)	Cross-Barrier Head Difference: Outside - Inside (ft)
Upgradient Areas East of Landfill						
D-10A	USAq	4/21/2016	10:41	19.32	--	--
D-11A	USAq	4/20/2016	15:09	18.92	0.06	--
D-11B	LSAq	4/20/2016	15:08	18.98		
MW-35	USAq	4/21/2016	10:36	17.41	--	--
MW-36	USAq	4/20/2016	15:05	18.48	--	--
PD-38	USAq	4/20/2016	15:19	18.80	--	--
PD-60	USAq	4/20/2016	15:14	18.30	--	--
PD-61	USAq	4/20/2016	10:12	19.43	--	--
PD-63B	USAq	4/20/2016	15:27	16.87	--	--
PD-64	USAq	4/20/2016	15:23	18.10	--	--
PD-65	USAq	4/21/2016	15:28	20.12	--	--
PD-201	USAq	4/21/2016	10:09	22.45	--	--
PD-202	USAq	4/21/2016	15:16	28.23	--	--
PD-203	USAq	4/21/2016	15:36	23.48	--	--
Landfill and Perimeter						
D-7A	USAq	4/20/2016	10:25	13.78	0.91	--
D-7B	LSAq	4/20/2016	10:25	14.70		
D-8A	USAq	4/22/2016	9:18	14.63	-0.06	--
D-8B	LSAq	4/22/2016	9:15	14.58		
D-9A	USAq	4/21/2016	15:50	15.47	--	--
North Pond	--	4/22/2016	10:59	17.21	--	--
PD-214	USAq	4/20/2016	14:39	14.53	--	--
PD-215	USAq	4/20/2016	14:35	14.85	--	--
PZ-1A	USAq	4/20/2016	16:14	14.28	--	0.32
PZ-1B	USAq	4/20/2016	16:15	13.96		
PZ-2A	USAq	4/20/2016	16:12	14.12	--	0.63
PZ-2B	USAq	4/20/2016	16:10	13.49		
PZ-3A	USAq	4/20/2016	16:08	14.41	--	0.94
PZ-3B	USAq	4/20/2016	16:07	13.47		
PZ-4A	USAq	4/20/2016	16:03	14.63	--	-0.01
PZ-4B	USAq	4/20/2016	16:02	14.64	0.00	
PZ-4C	LSAq	4/20/2016	16:01	14.64		
PZ-5A	USAq	4/20/2016	15:58	14.97	--	0.17
PZ-5B	USAq	4/20/2016	15:55	14.8	0.08	
PZ-5C	LSAq	4/20/2016	15:56	14.88		--

Table 2.1
Groundwater Elevations and Head Differences

Location	Aquifer	Date	Time	Groundwater Elevation (ft NAVD 88)	Vertical Head Difference: LSAq - USAq (ft)	Cross-Barrier Head Difference: Outside - Inside (ft)
Landfill and Perimeter (Cont.)						
PZ-6A	USAq	4/20/2016	15:52	15.82	--	1.17
PZ-6B	USAq	4/20/2016	15:51	14.65		
PZ-7A	USAq	4/20/2016	16:22	17.72	--	0.56
PZ-7B	USAq	4/20/2016	16:23	17.16		
PZ-8A	USAq	4/20/2016	16:20	18.64	--	0.17
PZ-8B	USAq	4/20/2016	15:19	18.47	0.04	
PZ-8C	LSAq	4/20/2016	15:18	18.51		--
West Pond	--	4/22/2016	9:55	15.43	--	--
Wetlands North of Landfill						
D-1U	USAq	4/20/2016	12:50	13.05	--	--
D-1L	LSAq	4/20/2016	12:52	overtopping casing		
D-5U	USAq	4/20/2016	11:36	13.50	1.09	--
D-5L	LSAq	4/20/2016	11:36	14.59		
D-6A	USAq	4/20/2016	14:32	13.20	--	--
D-6B	LSAq	4/20/2016	14:40	overtopping casing		
MW-13	USAq	4/21/2016	11:46	13.33	--	--
MW-14	USAq	4/20/2016	11:43	13.32	--	--
MW-15	USAq	4/21/2016	11:42	13.16	--	--
MW-16	USAq	4/20/2016	11:32	13.49	--	--
MW-17	USAq	4/20/2016	11:21	13.30	--	--
MW-31A	USAq	4/21/2016	9:28	13.38	1.44	--
MW-31B	LSAq	4/21/2016	9:48	14.82		
MW-32	USAq	4/20/2016	11:58	14.26	--	--
PD-1B	USAq	4/21/2016	9:26	13.34	--	--
PD-6	USAq	4/21/2016	9:35	13.37	--	--
PD-51	USAq	4/20/2016	11:53	13.71	--	--
PD-101	USAq	4/21/2016	9:40	13.36	--	--
PD-140	USAq	4/20/2016	13:41	13.56	--	--
PD-141	USAq	4/20/2016	13:42	13.35	--	--
PD-142	USAq	4/20/2016	13:18	13.67	--	--
PD-204	USAq	4/21/2016	9:14	--	--	--
W-3	USAq	4/20/2016	13:34	13.40	--	--

Table 2.1
Groundwater Elevations and Head Differences

Location	Aquifer	Date	Time	Groundwater Elevation (ft NAVD 88)	Vertical Head Difference: LSAq - USAq (ft)	Cross-Barrier Head Difference: Outside - Inside (ft)
Interurban Trail and Agricultural Fields West of Landfill						
MW-30	USAq	4/21/2016	12:37	13.89	--	--
MW-33	USAq	4/21/2016	15:47	14.99	--	--
MW-34	USAq	4/20/2016	14:01	14.77	--	--
MW-40B	LSAq	4/21/2016	15:00	12.63	--	--
PD-212	USAq	4/20/2016	14:13	12.36	--	--
PD-213	USAq	4/20/2016	14:20	13.70	--	--
PD-216	USAq	4/20/2016	14:28	16.16	--	--
W-1	USAq	4/21/2016	12:48	14.30	--	--

Note:

-- Not collected or not applicable.

Abbreviations:

ft Feet
LSAq Lower Sand Aquifer
NAVD 88 North American Vertical Datum of 1988
USAq Upper Sand Aquifer

Table 2.2

Field Water Quality Parameters[1]

Location	Sample Date	Temperature (°C)	pH	Specific Conductivity (mS/cm)	Oxidation-Reduction Potential (mV)
Upper Sand Aquifer					
D-5U	4/20/2016	12.90	6.34	1.141	-117
D-6A	4/20/2016	13.98	5.92	0.290	6
D-7A	4/20/2016	12.50	6.16	1.012	-96
D-8A	4/22/2016	12.70	6.84	0.235	-110
D-9A	4/21/2016	17.19	6.99	0.116	98
D-10A	4/21/2016	11.70	6.17	0.247	-29
MW-13	4/21/2016	11.20	6.51	0.675	-123
MW-15	4/21/2016	11.82	6.13	0.559	20
MW-30	4/21/2016	17.33	6.37	0.225	-14
MW-31A	4/21/2016	11.00	6.54	1.430	-105
MW-33	4/21/2016	12.60	6.63	0.232	-41
MW-35	4/21/2016	12.61	7.00	0.143	98
PD-141	4/20/2016	13.10	6.31	1.224	-118
PZ-5A	4/22/2016	13.30	6.68	0.374	-80
PZ-6A	4/22/2016	16.70	6.25	0.393	-8
W-1	4/21/2016	12.40	7.02	0.343	-123
Lower Sand Aquifer					
D-5L	4/20/2016	19.79	6.39	0.181	-5
D-6B	4/20/2016	13.10	6.94	0.318	-131
D-7B	4/20/2016	16.21	6.28	0.182	-19
D-8B	4/22/2016	12.80	6.68	0.133	-1
MW-40B	4/21/2016	14.00	7.15	0.262	-140

Notes:

-- Not measured or not applicable.

1 Field parameters collected with Horiba U-50 and YSI ProDSS water quality instruments and flow through cells. Reported measurements were recorded when stabilization criteria were reached.

Abbreviations:

°C Degrees Celsius

mS/cm Millisiemens per centimeter

mV Millivolt

ORP Oxidation reduction potential

Table 2.3
Groundwater Arsenic Results[1]

	Upper Sand Aquifer																	Lower Sand Aquifer				
	Total Arsenic (µg/L)																	Total Arsenic (µg/L)				
Sample Location	**D-5U**	**D-6A**	**D-7A**	**D-8A**	**D-9A**	**D-10A**	**MW-13**	**MW-15**	**MW-30**	**MW-31A**	**MW-33**	**MW-35**	**PD-140**	**PD-141**	**PZ-5A**	**PZ-6A**	**W-1**	**D-5L**	**D-6B**	**D-7B**	**D-8B**	**MW-40B**
Compliance Monitoring Events																						
April 2016	22.8	50.2	33.9	108	41.0	273	1,200	183	170	2.7	431	32.4	6.1	413	347	42.5	9	4	3.5	5.8	10.9	8
October 2015	21.1	60.3	37	87.9	43.0	300	1,220	752	139	2.4	423	29.8	NS	441	610	58.3	13.5	3.4	2.9	4.6	10.9	7.1
April 2015	22	47.8	44.5	342	42.0	354	1,580	1,070	204	4.1	399	25.8	NS	407	NS	NS	10.1	3.6	3.9	4.6	9.3	8.4
October 2014	16.3	50.4	57.3	107	43.6	318	1,650	1,130	117	3.4	436	23.2	NS	323	NS	NS	11.2	3.2	3.9	4.2	10.7	NS
April 2014	17.6	63.7	48.8	415	37.2	183	1,430	1,260	136	5.4	376	23.2	NS	326	NS	NS	10.1	3.4	3.9	4	10.5	NS
October 2013	12.4	107	53.8	168	40.2	181	1,740	1,220	174	5.3	404	21.9	NS	302	NS	NS	12	3.5	3.6	4.6	13.9	NS
April 2013	16.5	163	29.5	363	38.0	199	1,910	1,580	252	6.6	398	23.8	NS	296	NS	NS	10.9	2.8	4.5	4.6	16.6	NS
October 2012	40.8	184	17.1	196	40.1	231	2,350	1,580	261	12.8	NS	NS	11.1	NS	NS	NS	NS	3.6	3.0	4.8	155	NS
April 2012	43.8	287	60.8	137	38.3	107	2,180	1,480	305	18.7	NS	NS	NS	NS	NS	NS	NS	4.1	4.3	4.8	370	NS
September 2011	86.3	885	22.5	99.6	38.2	213	2,520	1,520	640	21.7	NS	NS	21.7	NS	NS	NS	NS	4.2	3.5	4.8	28.2	NS
April 2011	90	1,170	31.5	126	38.7	203	2,720	1,610	854	5.7	NS	NS	NS	NS	NS	NS	NS	3.2	3.3	5.1	21.2	NS
October 2010	86.4	1,290	40.7	34	37.4	211	2,220	1,460	1,580	5.9	NS	NS	NS	NS	NS	NS	NS	3.4	3.4	4.8	6.1	NS
April 2010	100	1,370	27.4	31.1	36.6	159	2,450	1,610	2,410	15.5	NS	NS	NS	NS	NS	NS	NS	3.5	4.1	4.6	12.8	NS
October 2009	113	1,320	37.7	39.8	36.6	202	2,220	1,390	2,060	16.3	NS	NS	NS	NS	NS	NS	NS	3.4	2.4	4.6	11	NS
April 2009	144	1,490	331	68.2	38.3	175	2,340	1,630	2,190	22.4	NS	NS	NS	NS	NS	NS	NS	2.8	3.2	4.8	11.1	NS
October 2008	143	1,430	97.5	37.7	38.1	204	2,510	1,720	2,270	22.2	NS	NS	NS	NS	NS	NS	NS	3.3	2.4	4.6	12.2	NS
Historical Events																						
March 2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	3	5	18	NS
August 2006	89	1,900	56	450	38	200	3,800	3,700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
September 2005	132	1,790	50 U	86.1	50 U	266	3,530	1,810	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
March 2005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7.4	2.5 U	5.2	21.2	NS
December 2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6	5 U	6	21	NS
September 2003	190	1,900	5	110	31	300	4,600	2,800	NS	NS	NS	NS	NS	NS	NS	NS	NS	6	5	8	20	NS
June 2003	240	1,800	5 U	370	38	270	4,600	2,600	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	5 U	6	30	NS
March 2003	230	1,700	5 U	330	38	240	4,300	2,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	30	NS
December 2002	230	1,600	5 U	58	36	310	4,500	2,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS
September 2002	220	1,600	5 U	97	35	280	4,500	2,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5	20	NS
June 2002	240	1,800	5		38	260	4,700	2,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	6	30	NS
April 2002	300	1,800	5 U	400	50	300	4,300	2,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5	30	NS
December 2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8	8	5 U	30	NS
June 2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	4	6	30	NS
March 2001	280	1,800	3	130	39	230	4,300	2,700	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	3	6	30	NS
December 2000	280	2,100	3	62	39	270	5,300	3,100	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	4	6	20	NS
September 2000	260	2,000	5	68	58	350	4,600	2,700	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	5	6	20	NS
June 2000	180	1,500	5 U	96	40	250	3,200	2,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS
March 2000	310	1,600	5 U	150	39	220	6,200	2,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS

Table 2.3
Groundwater Arsenic Results[1]

	Upper Sand Aquifer																	Lower Sand Aquifer				
	Total Arsenic (µg/L)																	Total Arsenic (µg/L)				
Sample Location	D-5U	D-6A	D-7A	D-8A	D-9A	D-10A	MW-13	MW-15	MW-30	MW-31A	MW-33	MW-35	PD-140	PD-141	PZ-5A	PZ-6A	W-1	D-5L	D-6B	D-7B	D-8B	MW-40B
Historical Events (cont.)																						
January 2000	300	1,400	5 U	130	40	240	4,300	2,600	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	6	30	NS
September 1999	300	1,900	5 U	140	47	310	5,600	3,400	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	5	6	20	NS
June 1999	300	1,800	5 U	180	38	260	4,600	2,600	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS
March 1999	340	2,000	5 U	200	39	260	4,600	3,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	6	30	NS
December 1998	320	980	6	100	38	260	5,700	3,200	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	7	30	NS
September 1998	290	1,800	5 U	150	52	340	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS
June 1998	320	1,900	5 U	69	42	360	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	20	NS
March 1998	380	2,400	5 U	97	38	350	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	40	NS
December 1997	480	2,600	5 U	130	41	490	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	7	60	NS
September 1997	340	2,400	5 U	210	56	390	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	60	NS
June 1997	390	2,200	5 U	200	49	350	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5	60	NS
March 1997	360	1,900	5	110	36	340	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	7	60	NS
January 1997	310	2,000	5 U	130	39	310	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	90	NS
September 1996	300	2,000	5 U	260	73	470	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	6	5	100	NS
June 1996	NS	NS	5 U	130	49	470	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	100	NS
March 1996	NS	NS	5 U	150	39	420	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	100	NS
December 1995	NS	NS	5 U	270	44	540	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	100	NS
June 1995	300	2,200	5 U	170	55	540	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	200	NS
March 1995	350	2,400	5 U	180	34	320	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	200	NS
December 1994	312	2,494	5 U	130	42	492	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	300	NS
August 1994	314	3,252	5 U	145	84	542	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	400	NS
May 1994	307	2,745	5 U	133	39	363	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	9	700	NS
January 1994	284	2,505	5 U	165	64	402	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5 U	5 U	5 U	800	NS
May 1993	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS
August 1990	22	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
December 1989	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
September 1989	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Note:

1 Reported value is the maximum concentration per location, per sampling date.

Abbreviations:

µg/L Micrograms per liter

NS Not sampled

Qualifier:

U Analyte is undetected at given reporting limit.

Table 2.4

Surface Water Arsenic Results[1]

Sampling Date	SW-02		SW-03		SW-05	
	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)
Compliance Monitoring Events						
April 2016	9.0	17	8.0	15	8.2	17
October 2015	10.2	15.4	4.9	6.5	7.5	14.6
April 2015	5.6	7.8	4.4	14.6	7.9	12.1
October 2014	5.9	9.2	3.3	4.1	6.4	12
April 2014	7.6	10.3	5.7	9.6	13.3	18.1
October 2013	10.5	15.6	5.8	9.9	8.4	15.9
April 2013	18.1	22.1	7.9	10.4	11.5	23.4
October 2012	NS	NS	29.4	54.6	11.5	51.2
April 2012	9.3	10.3	4.1	8.2	16.8	24.4
September 2011	8.6	10.1	4.5	5.4	7.9	24.2
April 2011	9.1	9.1	3	6.2	12.4	18.4
October 2010	8	NA	5.3	NA	10.1	NA
April 2010	9.8	10.9	4.5	48	14.3	20.7
October 2009	5.7	7	4.7	8.9	10.1	22.6
April 2009	5.1	8.7	5.6	7	10.5	15.1
October 2008	17.6	25	4.3	8.7	8	54
Historical Events						
December 2006	NS	7	NS	10	NS	14
July 2006	NS	NS	NS	97	NS	65
September 2003	16	53	8	21	NS	NS
June 2003	11	580	NS	NS	NS	NS
March 2003	9	11	11	24	NS	NS
December 2002	5 U	5 U	5 U	5 U	NS	NS
September 2002	10	370	5 U	5 U	NS	NS
June 2002	24	30	14	15	NS	NS
April 2002	22	26	11	17	NS	NS
March 2001	22	75	40	110	NS	NS
December 2000	31	81	24	24	NS	NS
September 2000	13	2,220	92	1,800	NS	NS
June 2000	15	85	37	220	NS	NS
March 2000	23	73	15	20	NS	NS
January 2000	14	18	9	10	NS	NS
June 1999	21	24	8	10	NS	NS
March 1999	10	11	12	19	NS	NS
December 1998	42	40	19	18	NS	NS
March 1997	NS	NS	NS	NS	NS	NS

Table 2.4

Surface Water Arsenic Results[1]

Sampling Date	SW-02		SW-03		SW-05	
	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)	Dissolved Arsenic (µg/L)	Total Arsenic (µg/L)
Historical Events (Cont.)						
January 1997	NS	NS	10	9	NS	NS
March 1996	NS	NS	NS	NS	NS	NS
December 1995	NS	NS	NS	NS	NS	NS
June 1995	54	42	21	150	NS	NS
March 1995	31	86	25	41	NS	NS
December 1994	7	14	28	58	NS	NS
August 1994	61	101	60	104	NS	NS
May 1994	41	64	52	95	NS	NS
January 1994	NS	NS	72	222,000	NS	NS
May 1993	90 U	50 U	33	30 U	NS	NS
January 1990	230	370	89	110	NS	NS
November 1989	390	3,400	93	390	NS	NS
October 1989	38	170	49	60	NS	NS

Note:

1 Reported value is the maximum concentration per location, per sampling date.

Abbreviations:

µg/L Micrograms per liter
NA Not analyzed
NS Not sampled

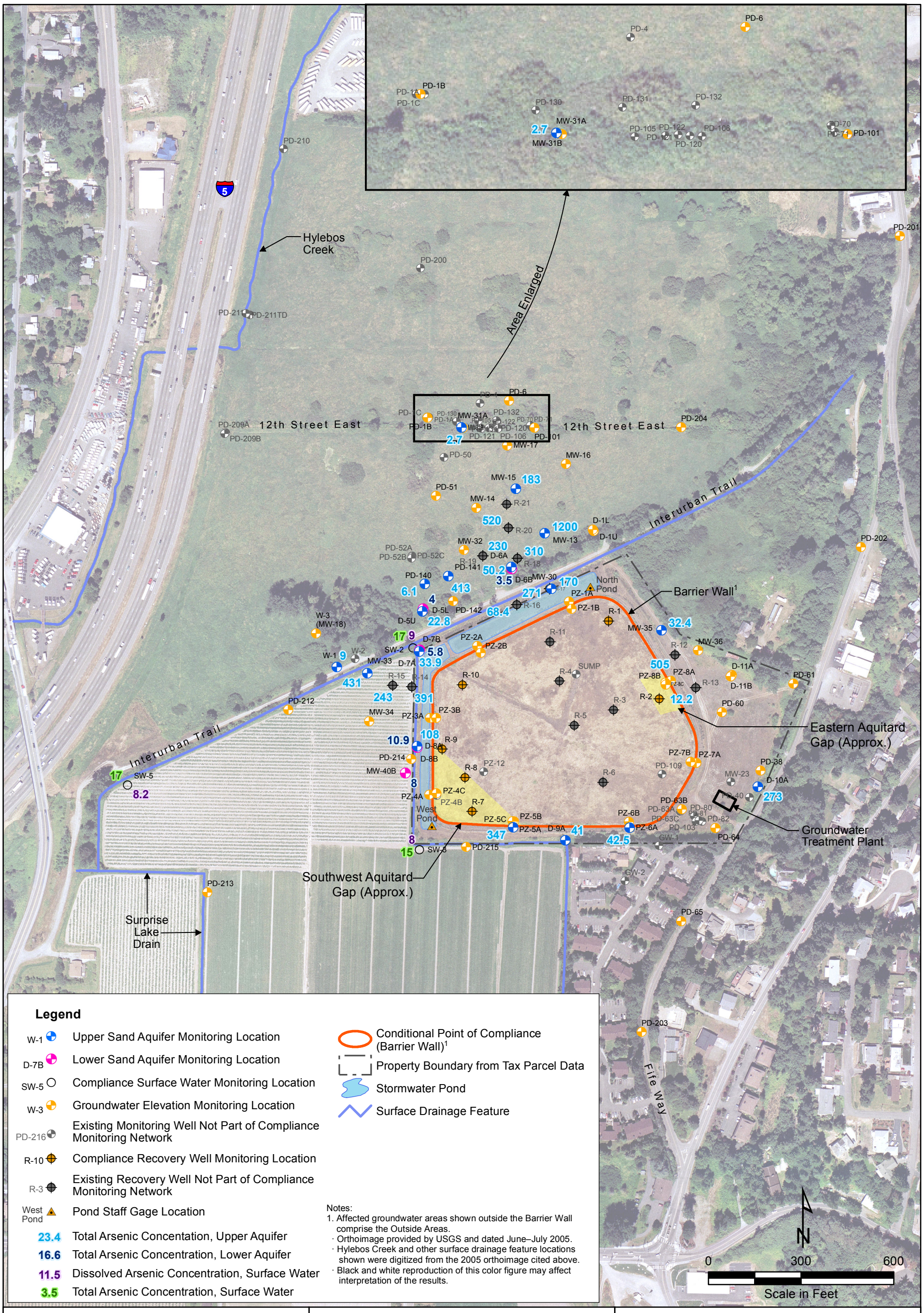
Qualifier:

U Analyte is undetected at given reporting limit.

B&L Woodwaste Site

Compliance Monitoring Data Report
April 2016

Figures



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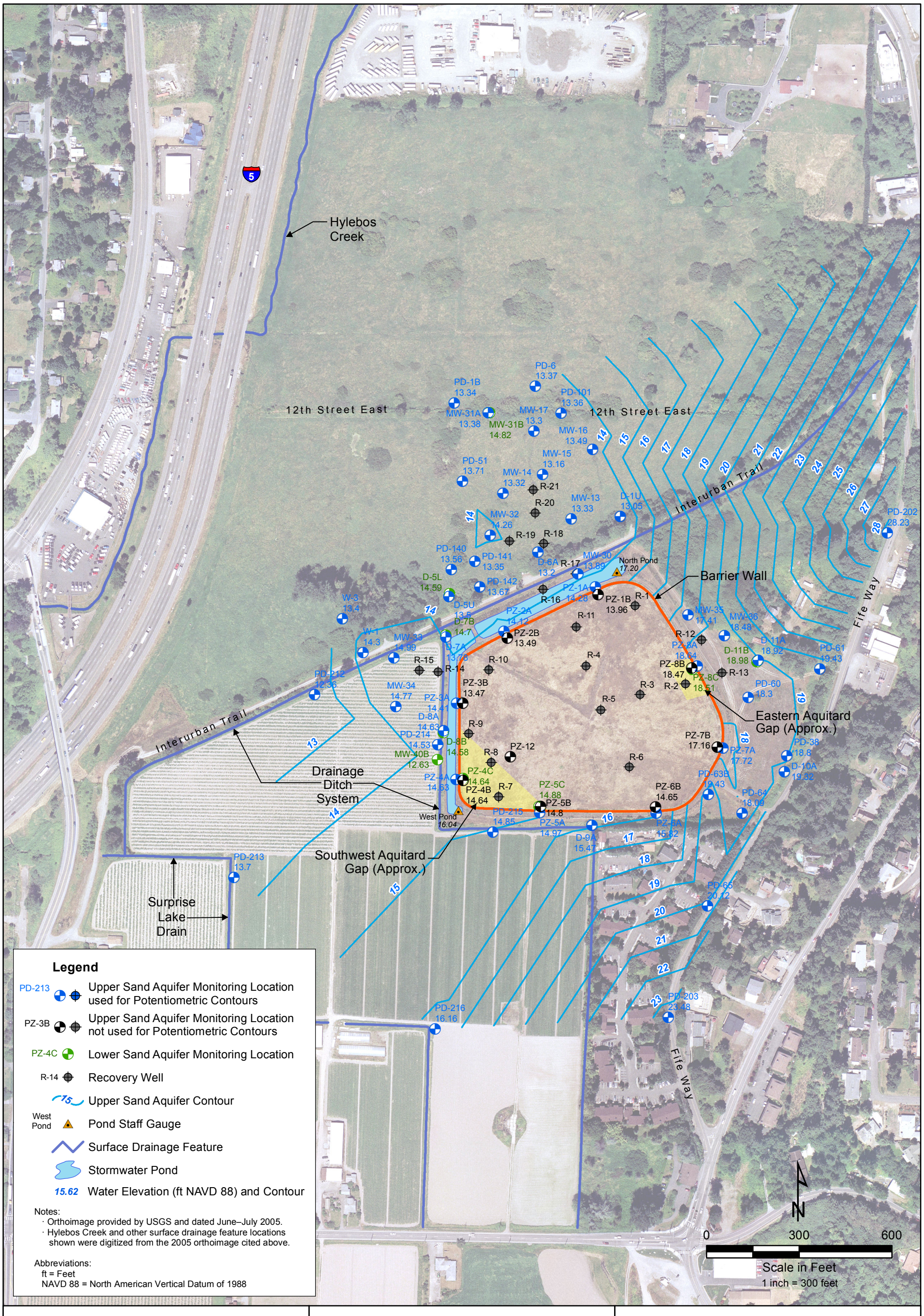
Compliance Monitoring Data Report
B&L Woodwaste Site
Pierce County, Washington

Figure1.1
April 2016 Arsenic Results

Path: I:\GIS\Projects\B&L-O&M\MXD\Compliance Monitoring Report\April 2016\Figure 1.1 - April 2016 Arsenic Results.mxd
Date: 7/12/2016



Legend

- PD-213 — Upper Sand Aquifer Monitoring Location used for Potentiometric Contours
- PZ-3B — Upper Sand Aquifer Monitoring Location not used for Potentiometric Contours
- PZ-4C — Lower Sand Aquifer Monitoring Location
- R-14 — Recovery Well
- 15 — Upper Sand Aquifer Contour
- West Pond — Pond Staff Gauge
- Surface Drainage Feature
- Stormwater Pond
- 15.62 — Water Elevation (ft NAVD 88) and Contour

Notes:
· Orthoimage provided by USGS and dated June–July 2005.
· Hylebos Creek and other surface drainage feature locations shown were digitized from the 2005 orthoimage cited above.

Abbreviations:
ft = Feet
NAVD 88 = North American Vertical Datum of 1988

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Compliance Monitoring Data Report
B&L Woodwaste Site
Pierce County, Washington

Figure 2.1
April 2016
Upper Sand Aquifer
Potentiometric Contours

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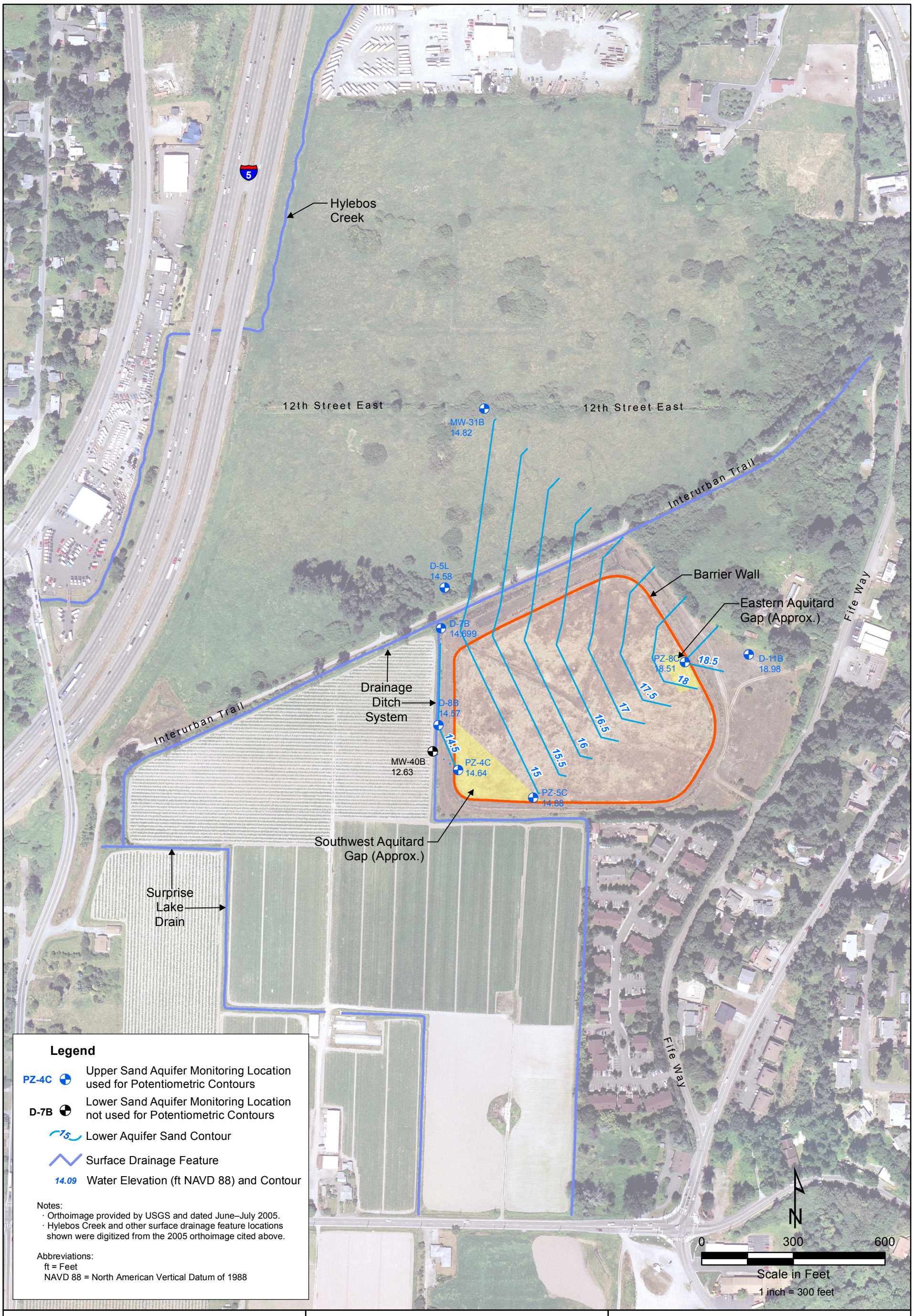

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Compliance Monitoring Data Report
B&L Woodwaste Site
Pierce County, Washington

Figure 2.2
April 2016
Lower Sand Aquifer
Potentiometric Contours

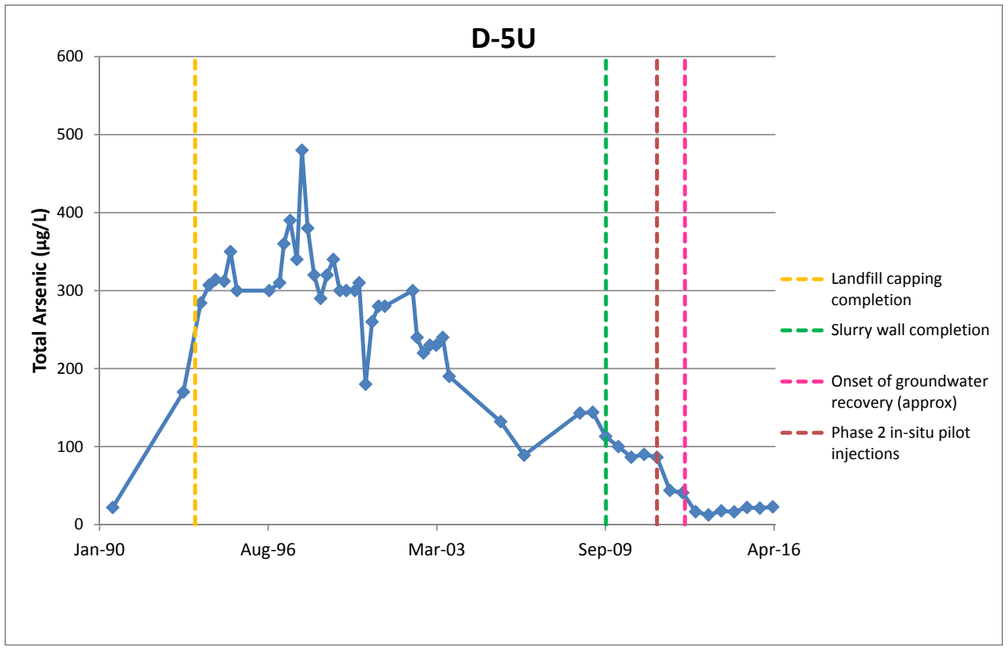
I:\GIS\Projects\B&L-O&M\MXD\Compliance Monitoring Report\April 2016\Figure 2.2 - April 2016 Lower Sand Aquifer GW Contours.mxd 7/11/2016

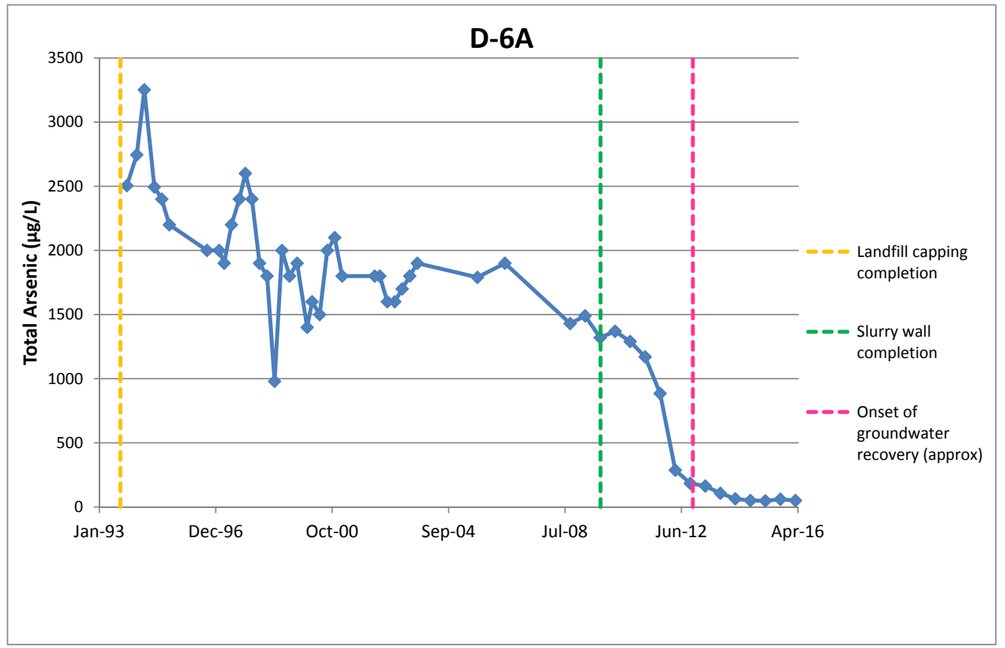
B&L Woodwaste Site

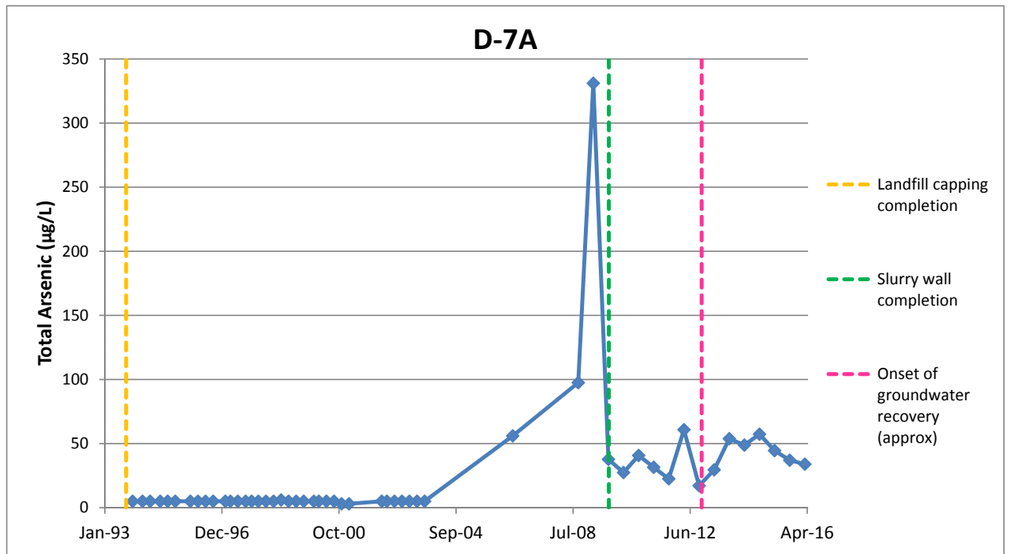
Compliance Monitoring Data Report
April 2016

Appendix A
Time-Concentration Plots

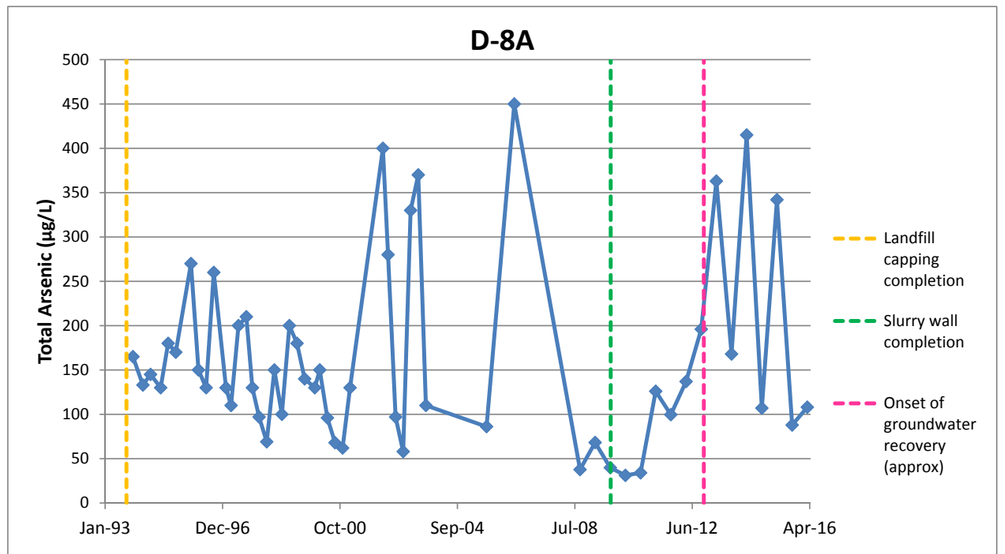
Appendix A
Time-Concentration Plots



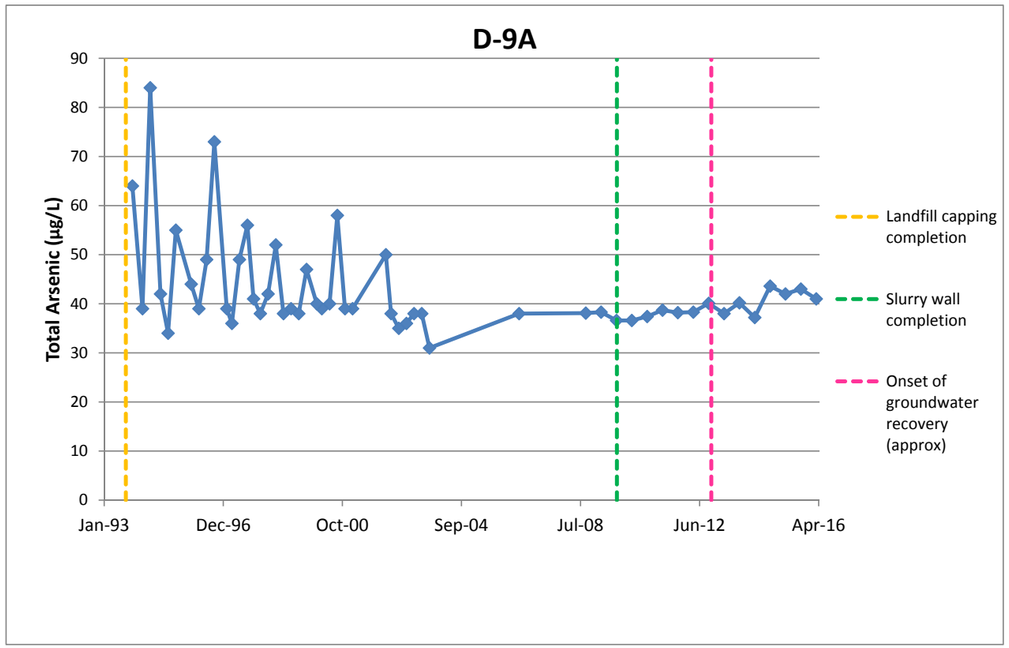


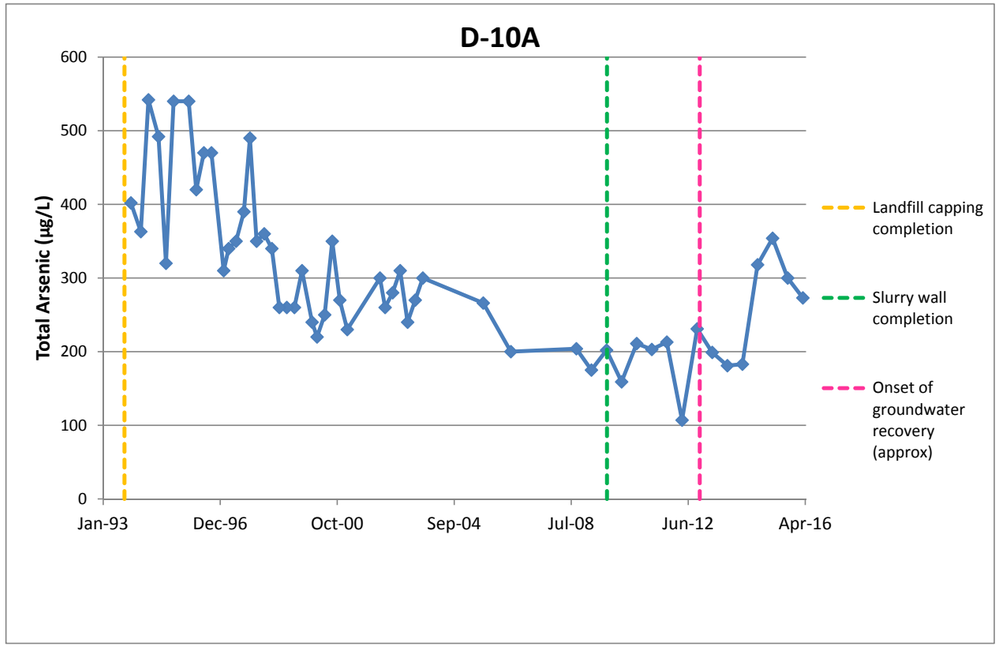


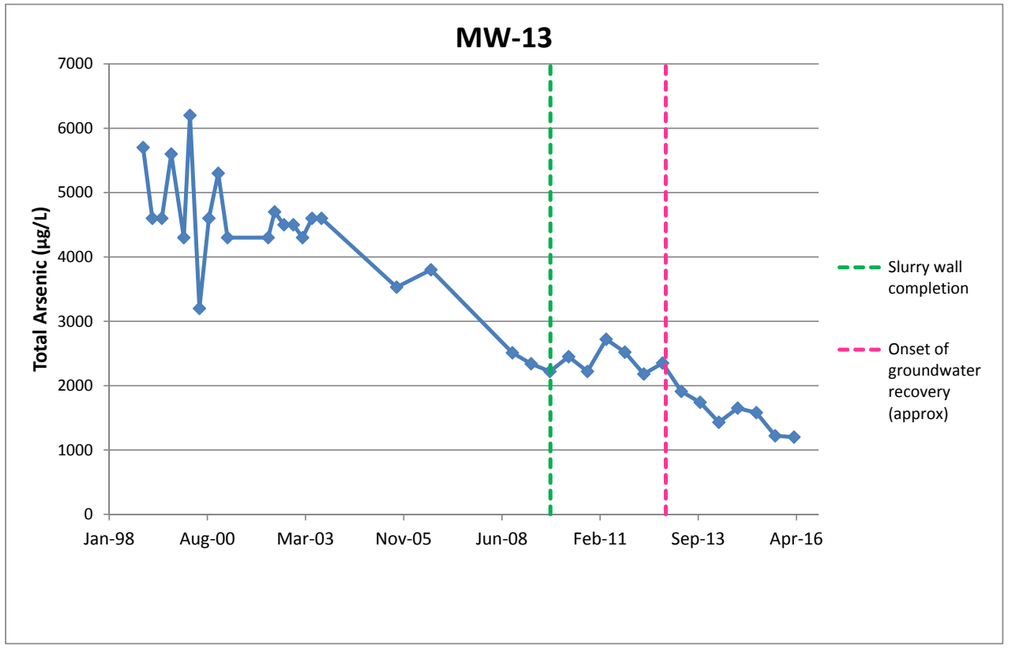
Notes: Detection limits vary. Non-detect results with detection limits of 5 µg/L or less are plotted at the detection limit. Non-detect results with detection limits greater than 5 µg/L have been omitted. Refer to Table 2.3.

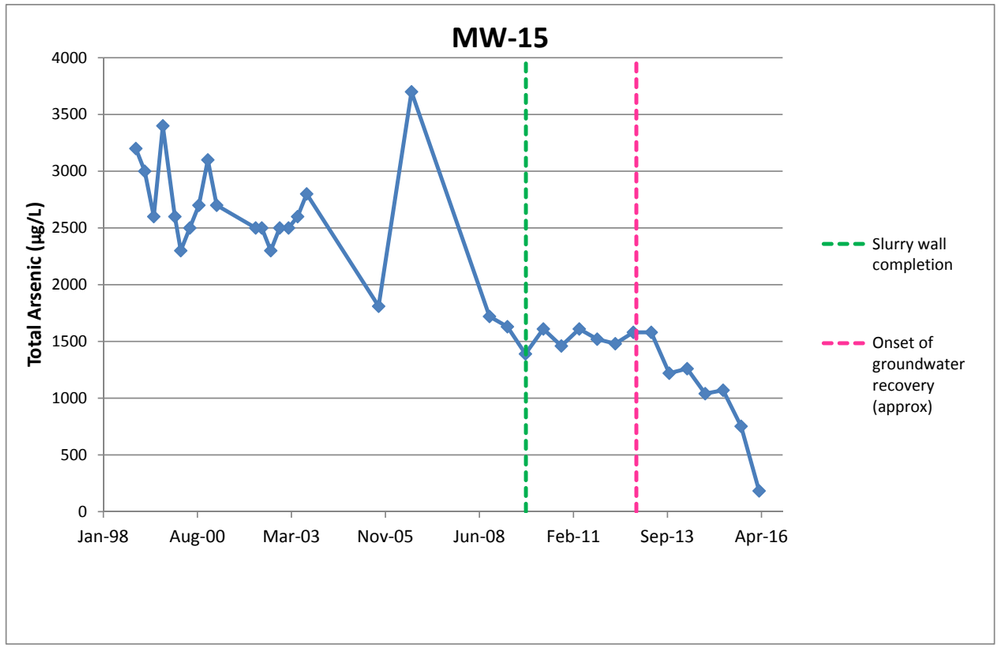


Appendix A
Time-Concentration Plots

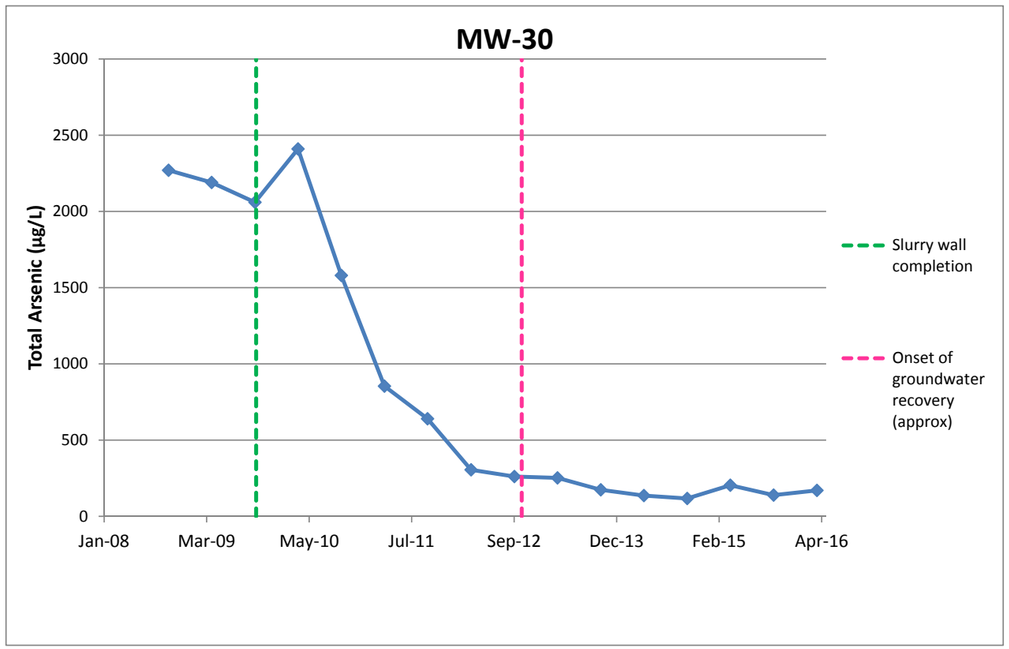


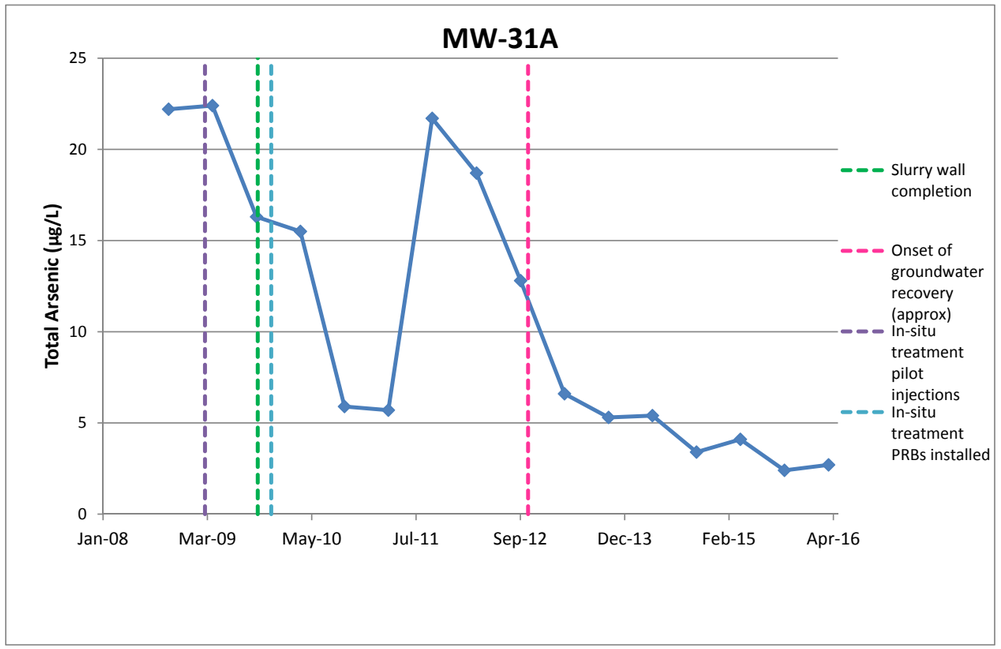


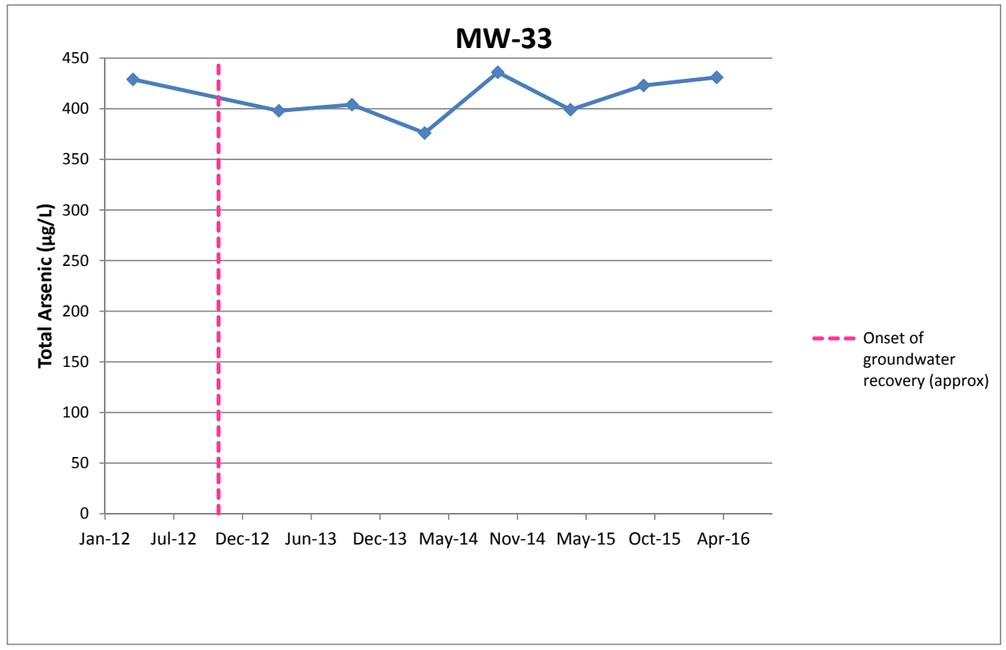


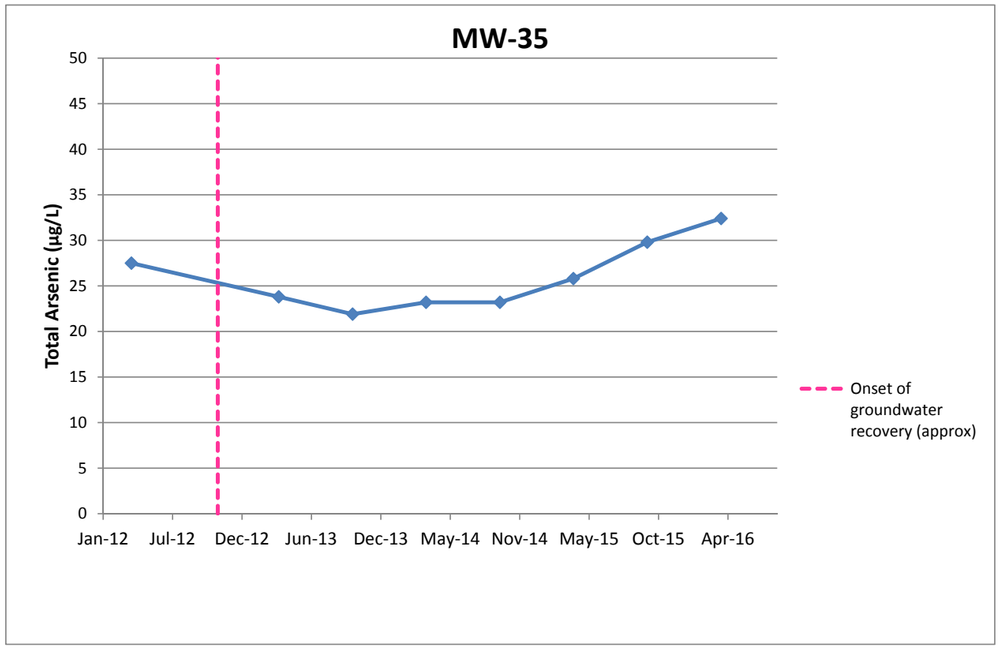


Appendix A
Time-Concentration Plots

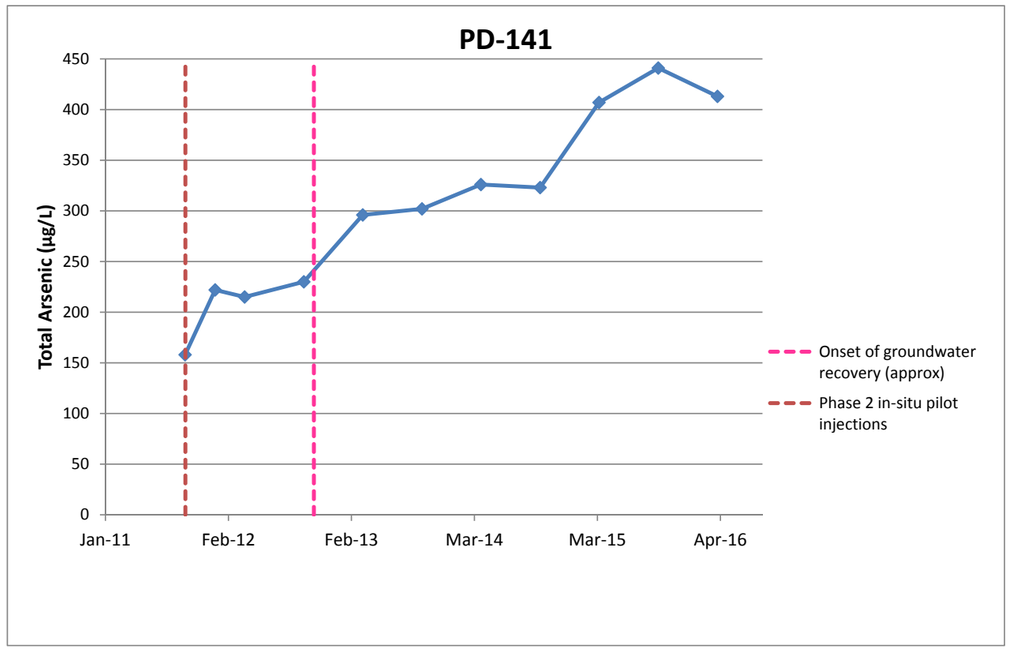


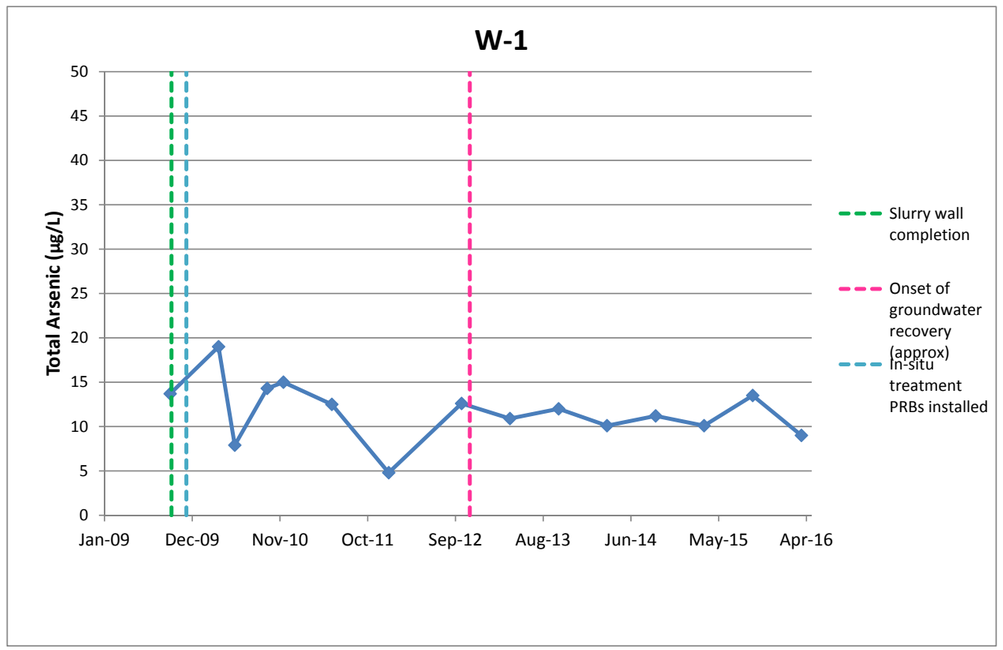


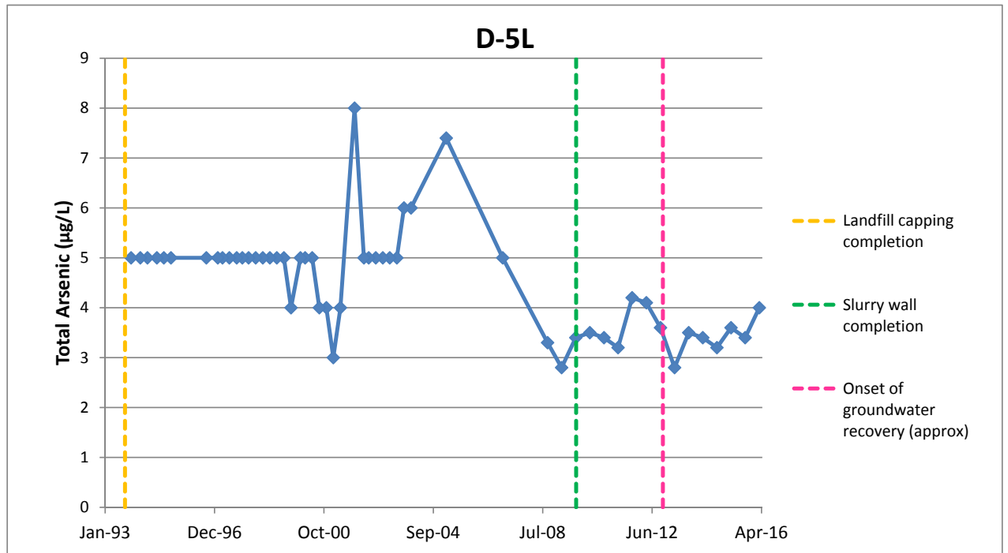




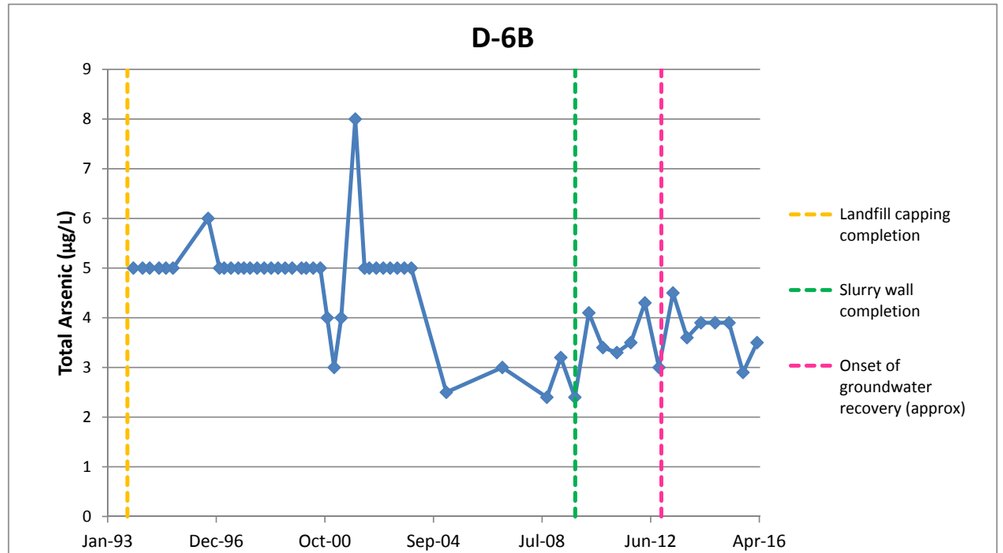
Appendix A
Time-Concentration Plots







Notes: Detection limits vary. Non-detect results with detection limits of 5 µg/L or less are plotted at the detection limit. Non-detect results with detection limits greater than 5 µg/L have been omitted. Refer to Table 2.3.



Notes: Detection limits vary. Non-detect results with detection limits of 5 µg/L or less are plotted at the detection limit. Non-detect results with detection limits greater than 5 µg/L have been omitted. Refer to Table 2.3.

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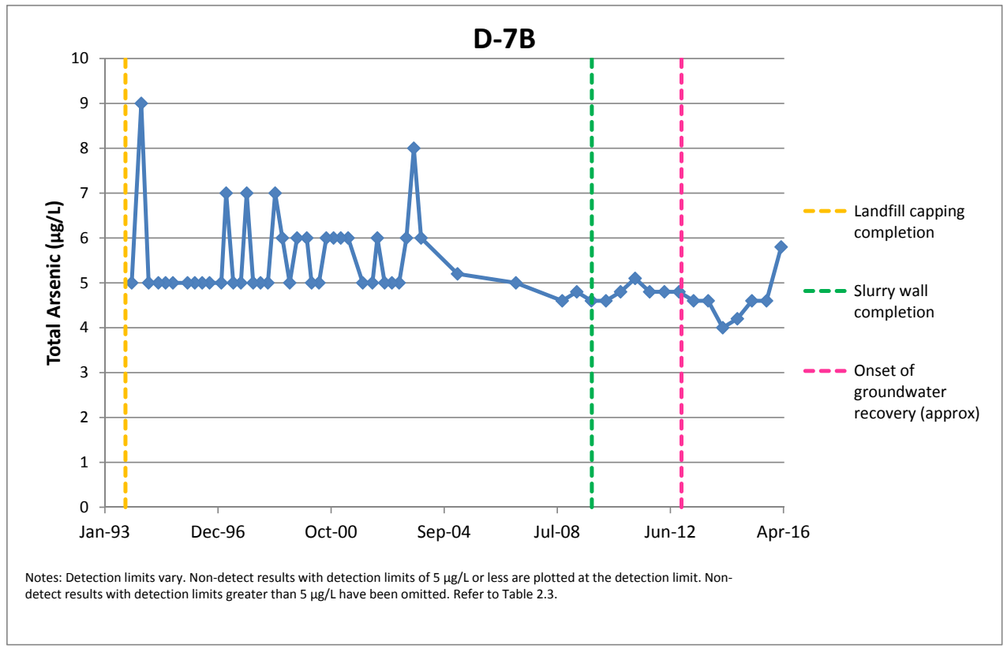
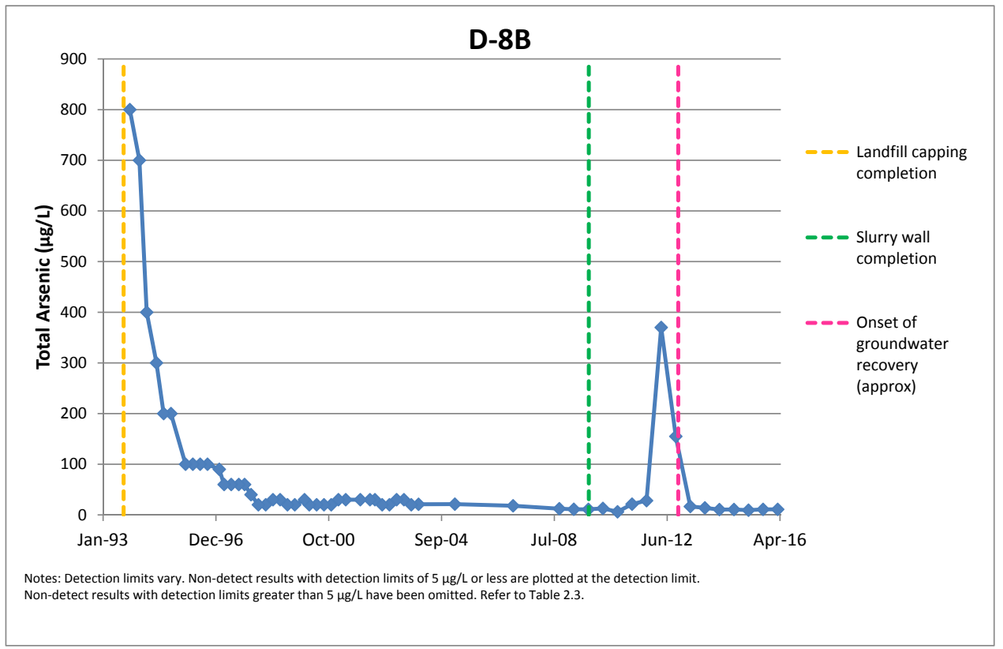
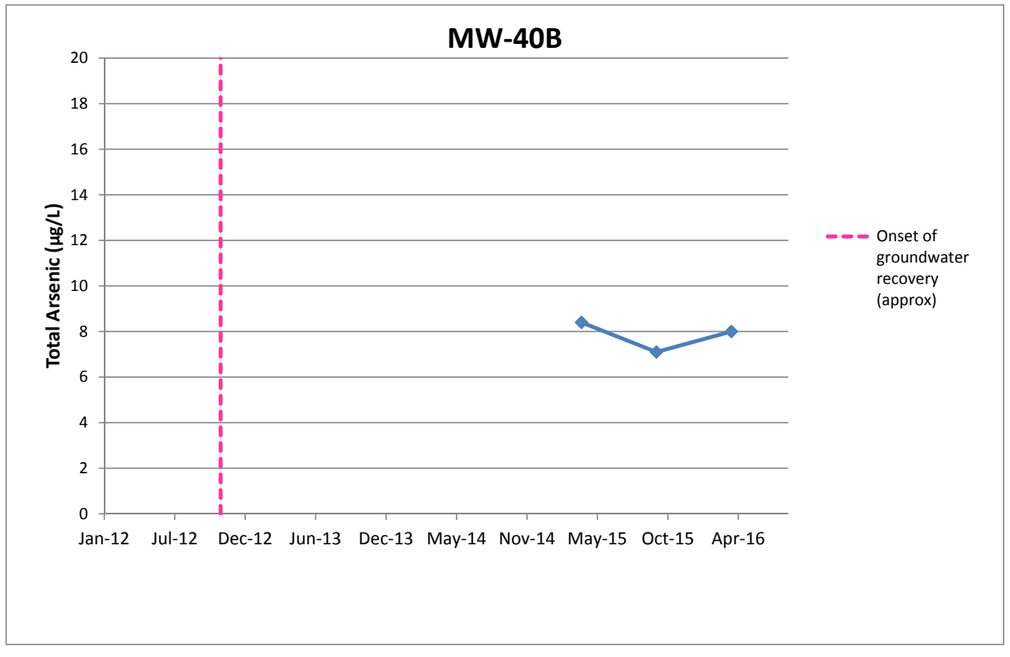
Time-Concentration Plots



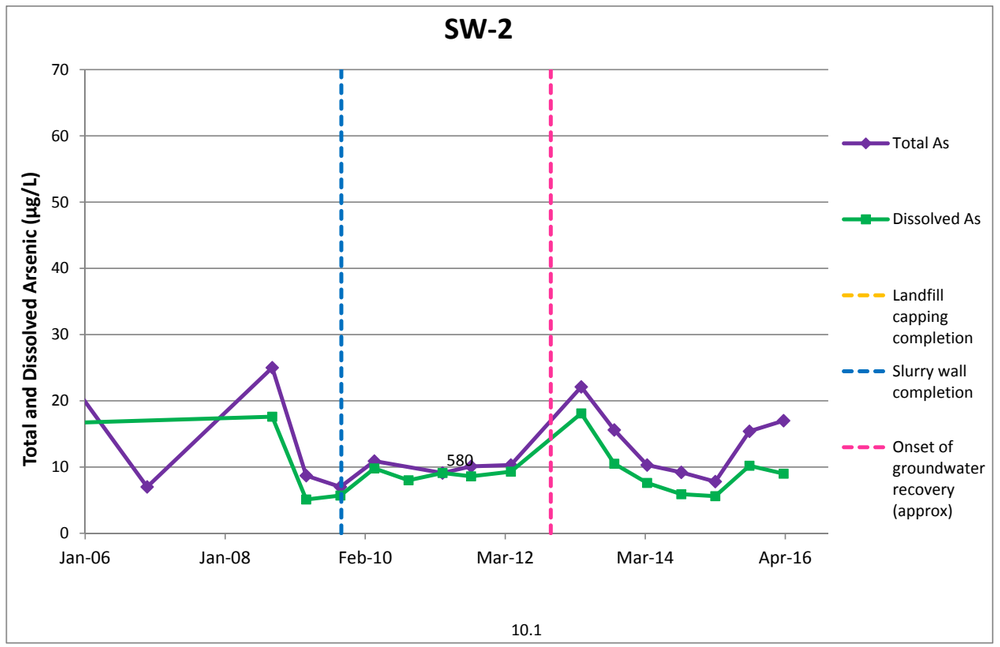
Notes: Detection limits vary. Non-detect results with detection limits of 5 µg/L or less are plotted at the detection limit. Non-detect results with detection limits greater than 5 µg/L have been omitted. Refer to Table 2.3.

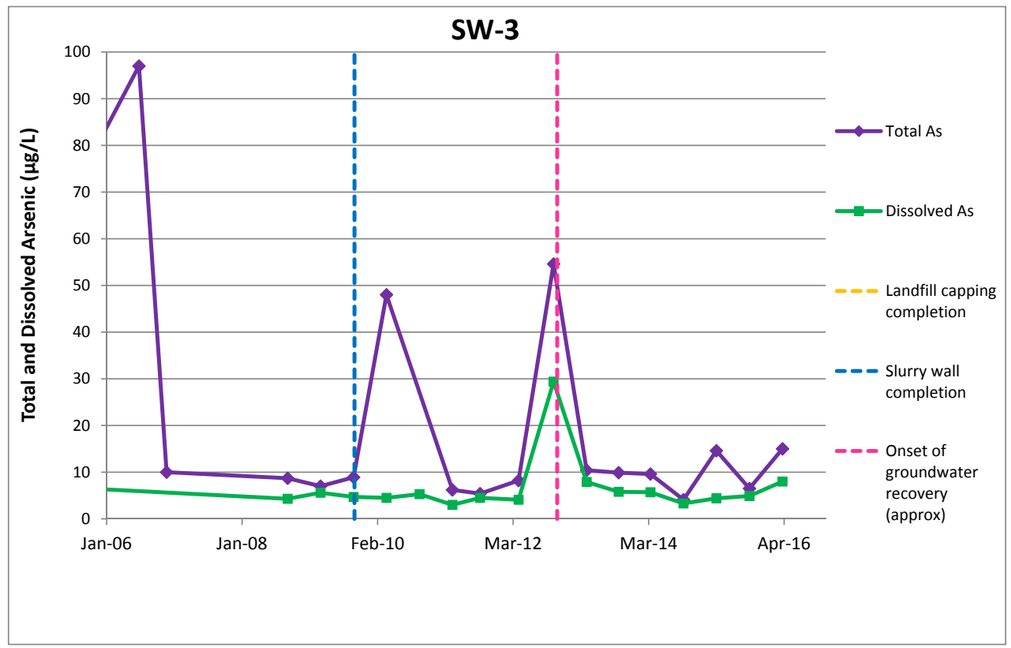


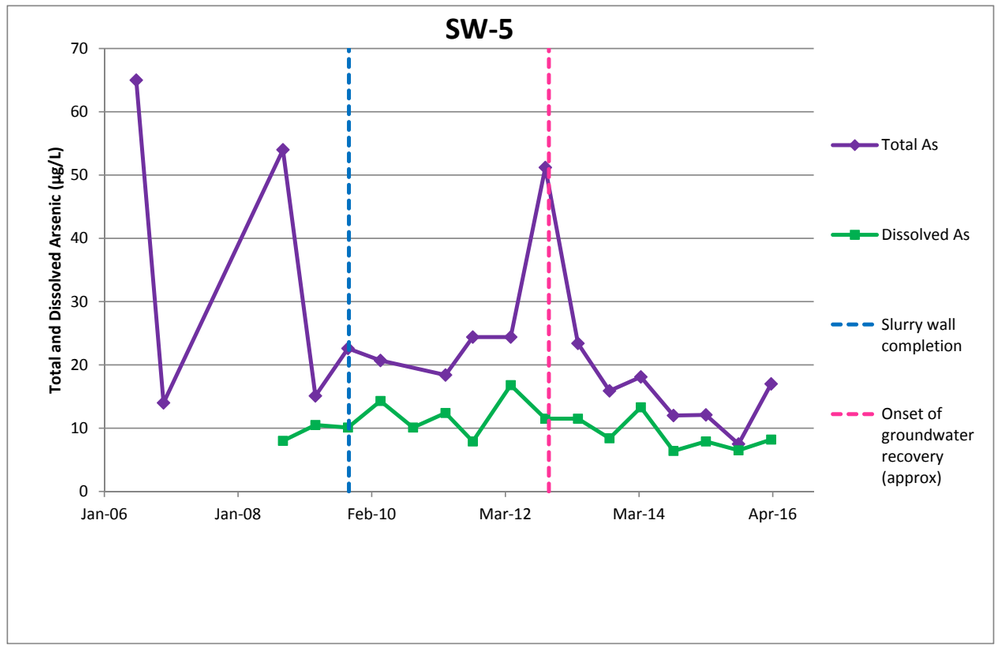
Notes: Detection limits vary. Non-detect results with detection limits of 5 µg/L or less are plotted at the detection limit.
Non-detect results with detection limits greater than 5 µg/L have been omitted. Refer to Table 2.3.



Appendix A
Time-Concentration Plots







B&L Woodwaste Site

Compliance Monitoring Data Report
April 2016

Appendix B
Analytical Laboratory Results

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 4, 2016

Brett Beaulieu
Floyd Snider
600 Union Street, Suite 600
Seattle, WA 98101-2341

RE: B&L O+M, 1507.1
ARI Job No.: AZP6

Dear Mr. Beaulieu:

Please find enclosed the original Chain-of-Custody record (COC), sample receipt documentation, and the final results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted twenty water samples on April 22, 2016. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for total metals, as requested on the COCs.

There were no anomalies associated with these analyses.

An electronic copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile AZP6

Enclosures

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

ARI Assigned Number: AZP6	Turn-around Requested: Std	Page: 1	of 4
ARI Client Company: Floyd Snider	Phone: 206-292-2078	Date: 4/20/16	Ice Present?
Client Contact: Brett Beaulieu		No. of Coolers:	Cooler Temps: 3.3
Client Project Name: B+L O+M			
Client Project #: F.1507.1	Samplers: K Anderson EMurray C.Wilson		

Sample ID	Date	Time	Matrix	No. Containers	As (+Pb) 200.8								Notes/Comments
BLW-GW-R13	4/20/16	1042	W	1	X								
BLW-GW-R12	↓	1045	↓	1	X								
BLW-GW-D7B	↓	1101	W	1	X								
BLW-GW-D7A	↓	1055	W	1	X								
BLW-GW-D7X	↓	1050	W	1	X								
BLW-GW-D5L	↓	1205	W	1	X								
BLW-GW-D5U	↓	1205	W	1	X								
BLW-GW-R19	↓	1207	↓	1	X								
BLW-GW-R20	↓	1216	↓	1	X								
BLW-GW-PD141	↓	1407	↓	1	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Kristin Anderson	Printed Name: Justin Meyer	Printed Name:	Printed Name:
	Company: Floyd Snider	Company: ARI	Company:	Company:
	Date & Time: 4/22/2016 1251	Date & Time: 4-22-16 1251	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AEP0	Turn-around Requested: Std.	Page: 2 of 4	
ARI Client Company:	Phone:	Date: 4/20/16	Ice Present?
Client Contact: Same as First		No. of Coolers:	Cooler Temps:
Client Project Name:			
Client Project #:	Samplers:		

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Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Arsenic (Tot) 200.8								Notes/Comments
BLW-GW-PD140	4/20/16	1405	W	1	X								
BLW-GW-R17	"	1448	"	1	X								
BLW-GW-R14	"	1348	"	1	X								
BLW-GW-R15	"	1403	"	1	X								
BLW-GW-R16	"	1307	"	1	X								
BLW-GW-R18	"	1313	"	1	X								
BLW-GW-D6A	4/20/16	1508	W	1	X								
BLW-GW-D6B	"	1503	"	1	X								
BLW-GW-MW31A	4/21/16	0953	"	1	X								
BLW-GW-D10A	4/21/16	1105	"	1	X								

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Gustin Andersen	Printed Name: Justin Meyer	Printed Name:	Printed Name:
	Company: FS	Company: ARI	Company:	Company:
	Date & Time: 4/22/16 1251	Date & Time: 4-22-16 1251	Date & Time:	Date & Time:

42PS : 00003

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Floyd Snider

Project Name: B+L O+M

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: AZP6

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.3

Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D005276

Cooler Accepted by: SM Date: 4-22-16 Time: 1251

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet) Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? YES (NO)

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA (YES) NO

Were all VOC vials free of air bubbles? (NA) YES NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI... (NA) _____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

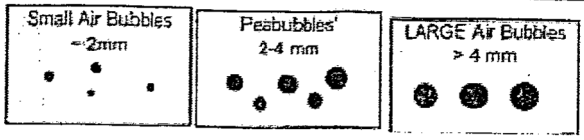
Samples Logged by: SM Date: 4-22-16 Time: 1514

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

PRESERVATION VERIFICATION 04/22/16
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ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **AZP6**

Inquiry Number: NONE
Analysis Requested: 04/22/16
Contact: Beaulieu, Brett
Client: Floyd-Snider
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Cheronne
VTSR: 04/22/16

Project #: 1507.1
Project: B+L O+M
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FCG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
16-6445 **AZP6A**	BLW-GW-R13						TOT Pass															
16-6446 **AZP6B**	BLW-GW-R12						TOT															
16-6447 **AZP6C**	BLW-GW-D7B						TOT															
16-6448 **AZP6D**	BLW-GW-D7A						TOT															
16-6449 **AZP6E**	BLW-GW-D7X						TOT															
16-6450 **AZP6F**	BLW-GW-D5L						TOT															
16-6451 **AZP6G**	BLW-GW-D5U						TOT															
16-6452 **AZP6H**	BLW-GW-R19						TOT															
16-6453 **AZP6I**	BLW-GW-R20						TOT															
16-6454 **AZP6J**	BLW-GW-PD141						TOT															
16-6455 **AZP6K**	BLW-GW-PD140						TOT															
16-6456 **AZP6L**	BLW-GW-R17						TOT															
16-6457 **AZP6M**	BLW-GW-R14						TOT															
16-6458 **AZP6N**	BLW-GW-R15						TOT															

Checked By JM Date 4-22-16

PRESERVATION VERIFICATION 04/22/16
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ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **AZP6**

Client: Floyd-Snider

Project #: 1507.1
Project: B+L O+M

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
16-6459 **AZP6O**	BLW-GW-R16						TOT pres															
16-6460 **AZP6P**	BLW-GW-R18						TOT															
16-6461 **AZP6Q**	BLW-GW-D6A						TOT															
16-6462 **AZP6R**	BLW-GW-D6B						TOT															
16-6463 **AZP6S**	BLW-GW-MW31A						TOT															
16-6464 **AZP6T**	BLW-GW-D10A						TOT															

AZP6 : 9999

Checked By JM Date 4-22-16

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AZP6
Client: Floyd-Snider
Project Event: 1507.1
Project Name: B+L O+M

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	BLW-GW-R13	AZP6A	16-6445	Water	04/20/16 10:42	04/22/16 12:51
2.	BLW-GW-R12	AZP6B	16-6446	Water	04/20/16 10:45	04/22/16 12:51
3.	BLW-GW-D7B	AZP6C	16-6447	Water	04/20/16 11:07	04/22/16 12:51
4.	BLW-GW-D7A	AZP6D	16-6448	Water	04/20/16 10:55	04/22/16 12:51
5.	BLW-GW-D7X	AZP6E	16-6449	Water	04/20/16 10:50	04/22/16 12:51
6.	BLW-GW-D5L	AZP6F	16-6450	Water	04/20/16 12:05	04/22/16 12:51
7.	BLW-GW-D5U	AZP6G	16-6451	Water	04/20/16 12:05	04/22/16 12:51
8.	BLW-GW-R19	AZP6H	16-6452	Water	04/20/16 12:07	04/22/16 12:51
9.	BLW-GW-R20	AZP6I	16-6453	Water	04/20/16 12:16	04/22/16 12:51
10.	BLW-GW-PD141	AZP6J	16-6454	Water	04/20/16 14:07	04/22/16 12:51
11.	BLW-GW-PD140	AZP6K	16-6455	Water	04/20/16 14:05	04/22/16 12:51
12.	BLW-GW-R17	AZP6L	16-6456	Water	04/20/16 14:48	04/22/16 12:51
13.	BLW-GW-R14	AZP6M	16-6457	Water	04/20/16 13:48	04/22/16 12:51
14.	BLW-GW-R15	AZP6N	16-6458	Water	04/20/16 14:03	04/22/16 12:51
15.	BLW-GW-R16	AZP6O	16-6459	Water	04/20/16 13:07	04/22/16 12:51
16.	BLW-GW-R18	AZP6P	16-6460	Water	04/20/16 13:13	04/22/16 12:51
17.	BLW-GW-D6A	AZP6Q	16-6461	Water	04/20/16 15:00	04/22/16 12:51
18.	BLW-GW-D6B	AZP6R	16-6462	Water	04/20/16 15:03	04/22/16 12:51
19.	BLW-GW-MW31A	AZP6S	16-6463	Water	04/21/16 09:53	04/22/16 12:51
20.	BLW-GW-D10A	AZP6T	16-6464	Water	04/21/16 11:05	04/22/16 12:51

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-R13
SAMPLE

Lab Sample ID: AZP6A
LIMS ID: 16-6445
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**12.2**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R12
SAMPLE

Lab Sample ID: AZP6B
LIMS ID: 16-6446
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	1	**505**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: BLW-GW-D7B
SAMPLE

Lab Sample ID: AZP6C
LIMS ID: 16-6447
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**5.8**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: BLW-GW-D7A**
Page 1 of 1 **SAMPLE**

Lab Sample ID: AZP6D
LIMS ID: 16-6448
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**33.9**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-D7X
SAMPLE

Lab Sample ID: AZP6E
LIMS ID: 16-6449
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**32.9**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-D5L
SAMPLE

Lab Sample ID: AZP6F
LIMS ID: 16-6450
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**4.0**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-D5U
SAMPLE

Lab Sample ID: AZP6G
LIMS ID: 16-6451
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**22.8**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-R19
SAMPLE

Lab Sample ID: AZP6H
LIMS ID: 16-6452
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**230**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R20
SAMPLE

Lab Sample ID: AZP6I
LIMS ID: 16-6453
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	1	**520**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-PD141
SAMPLE

Lab Sample ID: AZP6J
LIMS ID: 16-6454
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	1	**413**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-PD140
SAMPLE

Lab Sample ID: AZP6K
LIMS ID: 16-6455
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.2	**6.1**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R17
SAMPLE

Lab Sample ID: AZP6L
LIMS ID: 16-6456
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**271**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R14
SAMPLE

Lab Sample ID: AZP6M
LIMS ID: 16-6457
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**391**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R15
SAMPLE

Lab Sample ID: AZP6N
LIMS ID: 16-6458
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**243**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-R16
SAMPLE

Lab Sample ID: AZP60
LIMS ID: 16-6459
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**68.4**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-R18
SAMPLE

Lab Sample ID: AZP6P
LIMS ID: 16-6460
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**310**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-D6A
SAMPLE

Lab Sample ID: AZP6Q
LIMS ID: 16-6461
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**50.2**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-D6B
SAMPLE

Lab Sample ID: AZP6R
LIMS ID: 16-6462
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**3.5**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-MW31A
SAMPLE

Lab Sample ID: AZP6S
LIMS ID: 16-6463
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**2.7**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-D10A
SAMPLE

Lab Sample ID: AZP6T
LIMS ID: 16-6464
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	**7440-38-2**	**Arsenic**	0.4	**273**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-R13
MATRIX SPIKE

Lab Sample ID: AZP6A
LIMS ID: 16-6445
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	12.2	34.7	25.0	90.0%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: BLW-GW-R13 DUPLICATE

Lab Sample ID: AZP6A
LIMS ID: 16-6445
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M 1507.1
Date Sampled: 04/20/16
Date Received: 04/22/16

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	12.2	12.1	0.8%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: LAB CONTROL

Lab Sample ID: AZP6LCS
LIMS ID: 16-6464
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.8	25.0	99.2%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: AZP6MB
LIMS ID: 16-6464
Matrix: Water
Data Release Authorized:
Reported: 05/03/16

QC Report No: AZP6-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	04/29/16	200.8	05/02/16	7440-38-2	Arsenic	0.2	0.2	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 5, 2016

Brett Beaulieu
Floyd Snider
600 Union Street, Suite 600
Seattle, WA 98101-2341

RE: B&L O+M, 1507.1
ARI Job No.: AZP9

Dear Mr. Beaulieu:

Please find enclosed the original Chain-of-Custody record (COC), sample receipt documentation, and the final results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted nineteen water samples on April 22, 2016. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for total and dissolved metals, as requested on the COCs.

There were no anomalies associated with these analyses.

An electronic copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile AZP6

Enclosures

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AZP9	Turn-around Requested: Std	Page: 3 of 4	
ARI Client Company: Floyd Snider	Phone: 206-292-2078	Date: 4/21/16	Ice Present?
Client Contact: Brett Beaulieu		No. of Coolers:	Cooler Temps: 3.3
Client Project Name: BLC OTM E-1507.1			
Client Project #:	Samplers: IC Anderson EMurray CWilson		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: As (GFAA) 200.8	Notes/Comments
BLW-GW-MW35	4/21/16	1115	GW	1	X	
BLW-GW-MW13		1211		1	X	
BLW-GW-MW15		1210		1	X	
BLW-GW-MW29		1215		1	X	
BLW-GW-W1		1310		1	X	
BLW-SW-5-F		1333		1	X	Field Filtered
BLW-SW-5		1337		1	X	
BLW-SW-2		1316		1	X	
BLW-GW-MW30		1305		1	X	
BLW-SW-2-F		1315		1	X	Field Filtered

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Kristen Anderson	Printed Name: Justin Meyer	Printed Name	Printed Name:
	Company: FS	Company: ARI	Company:	Company:
	Date & Time: 4/22/16 1251	Date & Time: 4-22-16 1251	Date & Time:	Date & Time:

AZP9:00002

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AZP9	Turn-around Requested: STD	Page: 4 of 4	
ARI Client Company: Floyd | Snider	Phone: 206-292-2078	Date: 4/21/16	Ice Present?
Client Contact: Brett Beaulieu		No. of Coolers: 1	Cooler Temps: 3.3
Client Project Name: BLOOM			
Client Project #: 0.1507.1	Samplers: K Anderson E Murray CW Lee		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	As (tot) 200.8	Notes/Comments
BLW-GW-D9A	4/21/16	1615	W	1	X	
BLW-SW-3	"	1626	"	1	X	
BLW-SW-3-F	"	1623	"	1	X	Bold & filtered
BLW-GW-MW41B	"	1527	"	1	X	
BLW-GW-MW33	↓	1609	↓	1	X	
BLW-GW-D8A	4/22/16	0953	W	1	X	
BLW-GW-D8B	"	0950	"	1	X	
BLW-GW-PZ5A	"	1043	"	1	X	
BLW-GW-PZ6A	↓	1040	↓	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Kristin Anderson	Printed Name: Justin Meyer	Printed Name:	Printed Name:
	Company: FS	Company: ARI	Company:	Company:
	Date & Time: 4/22/16 1257	Date & Time: 4-22-16 1251	Date & Time:	Date & Time:

AZP9 : 0003

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Floyd Snider

Project Name: B+L O+M

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier ~~Hand Delivered~~ Other: _____

Assigned ARI Job No: AZP9

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	3.3	

Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D005276

Cooler Accepted by: JM Date: 4-22-16 Time: 1251

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet) Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

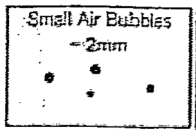
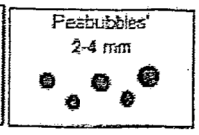
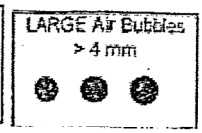
Samples Logged by: JM Date: 4-22-16 Time: 12:51

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

PRESERVATION VERIFICATION 04/25/16
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ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **AZP9**

PC: Cheronne
VTSR: 04/22/16

Inquiry Number: NONE
Analysis Requested: 04/22/16
Contact: Beaulieu, Brett
Client: Floyd-Snider
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 1057.1
Project: B+L O+M
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
16-6385 **AZP9A**	BLW-GW-MW35						TOT pass															
16-6386 **AZP9B**	BLW-GW-MW13						TOT															
16-6387 **AZP9C**	BLW-GW-MW15						TOT															
16-6388 **AZP9D**	BLW-GW-MW29						TOT															
16-6389 **AZP9E**	BLW-GW-W1						TOT															
16-6390 **AZP9F**	BLW-SW-5-F						DIS									Y						
16-6391 **AZP9G**	BLW-SW-5						TOT															
16-6392 **AZP9H**	BLW-SW-2						TOT															
16-6393 **AZP9I**	BLW-GW-MW30						TOT															
16-6394 **AZP9J**	BLW-SW-2-F						TOT									Y						
16-6395 **AZP9K**	BLW-GW-D9A						TOT															
16-6396 **AZP9L**	BLW-SW-3						TOT															
16-6397 **AZP9M**	BLW-SW-3-F						DIS									Y						
16-6398 **AZP9N**	BLW-MW40B						TOT															

AZP9 : 6555

Checked By CO/JM Date 4/22/16

PRESERVATION VERIFICATION 04/25/16
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ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **AZP9**

Client: Floyd-Snider

Project #: 1057.1
Project: B+L O+M

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
16-6399 **AZP9O**	BLW-GW-MW33						TOT PASS															
16-6400 **AZP9P**	BLW-GW-D8A						TOT															
16-6401 **AZP9Q**	BLW-GW-D8B						TOT															
16-6402 **AZP9R**	BLW-GW-PZ5A						TOT															
16-6403 **AZP9S**	BLW-GW-PZ6A						TOT															

AZP9 : 6666

Checked By JM/CO Date 4/28/16

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AZP9
Client: Floyd-Snider
Project Event: 1507.1
Project Name: B+L O+M

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	BLW-GW-MW35	AZP9A	16-6385	Water	04/21/16 11:15	04/22/16 12:51
2.	BLW-GW-MW13	AZP9B	16-6386	Water	04/21/16 12:11	04/22/16 12:51
3.	BLW-GW-MW15	AZP9C	16-6387	Water	04/21/16 12:10	04/22/16 12:51
4.	BLW-GW-MW29	AZP9D	16-6388	Water	04/21/16 12:15	04/22/16 12:51
5.	BLW-GW-W1	AZP9E	16-6389	Water	04/21/16 13:12	04/22/16 12:51
6.	BLW-SW-5-F	AZP9F	16-6390	Water	04/21/16 13:33	04/22/16 12:51
7.	BLW-SW-5	AZP9G	16-6391	Water	04/21/16 13:37	04/22/16 12:51
8.	BLW-SW-2	AZP9H	16-6392	Water	04/21/16 13:16	04/22/16 12:51
9.	BLW-GW-MW30	AZP9I	16-6393	Water	04/21/16 13:05	04/22/16 12:51
10.	BLW-SW-2-F	AZP9J	16-6394	Water	04/21/16 13:15	04/22/16 12:51
11.	BLW-GW-D9A	AZP9K	16-6395	Water	04/21/16 16:15	04/22/16 12:51
12.	BLW-SW-3	AZP9L	16-6396	Water	04/21/16 16:26	04/22/16 12:51
13.	BLW-SW-3-F	AZP9M	16-6397	Water	04/21/16 16:23	04/22/16 12:51
14.	BLW-MW40B	AZP9N	16-6398	Water	04/21/16 15:27	04/22/16 12:51
15.	BLW-GW-MW33	AZP9O	16-6399	Water	04/22/16 16:09	04/22/16 12:51
16.	BLW-GW-D8A	AZP9P	16-6400	Water	04/22/16 09:43	04/22/16 12:51
17.	BLW-GW-D8B	AZP9Q	16-6401	Water	04/22/16 09:50	04/22/16 12:51
18.	BLW-GW-PZ5A	AZP9R	16-6402	Water	04/22/16 10:43	04/22/16 12:51
19.	BLW-GW-PZ6A	AZP9S	16-6403	Water	04/22/16 10:40	04/22/16 12:51

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-MW35
SAMPLE

Lab Sample ID: AZP9A
LIMS ID: 16-6385
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**32.4**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-MW13
SAMPLE

Lab Sample ID: AZP9B
LIMS ID: 16-6386
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	2	**1,200**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-MW15
SAMPLE

Lab Sample ID: AZP9C
LIMS ID: 16-6387
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**183**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-MW29
SAMPLE

Lab Sample ID: AZP9D
LIMS ID: 16-6388
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**179**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-GW-W1
SAMPLE

Lab Sample ID: AZP9E
LIMS ID: 16-6389
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/04/16	**7440-38-2**	**Arsenic**	1	**9**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: BLW-SW-5
SAMPLE

Lab Sample ID: AZP9G
LIMS ID: 16-6391
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/04/16	**7440-38-2**	**Arsenic**	1	**17**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-SW-2
SAMPLE

Lab Sample ID: AZP9H
LIMS ID: 16-6392
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/04/16	**7440-38-2**	**Arsenic**	1	**17**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-MW30
SAMPLE

Lab Sample ID: AZP9I
LIMS ID: 16-6393
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**170**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-D9A
SAMPLE

Lab Sample ID: AZP9K
LIMS ID: 16-6395
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**41.0**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-SW-3
SAMPLE

Lab Sample ID: AZP9L
LIMS ID: 16-6396
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	1	**15**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-MW40B
SAMPLE

Lab Sample ID: AZP9N
LIMS ID: 16-6398
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**8.0**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-MW33
SAMPLE

Lab Sample ID: AZP90
LIMS ID: 16-6399
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/22/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**431**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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TOTAL METALS
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Sample ID: BLW-GW-D8A
SAMPLE

Lab Sample ID: AZP9P
LIMS ID: 16-6400
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/22/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**108**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-D8B
SAMPLE

Lab Sample ID: AZP9Q
LIMS ID: 16-6401
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/22/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**10.9**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-PZ5A
SAMPLE

Lab Sample ID: AZP9R
LIMS ID: 16-6402
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/22/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**347**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-GW-PZ6A
SAMPLE

Lab Sample ID: AZP9S
LIMS ID: 16-6403
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: 04/22/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**42.5**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-MW35
MATRIX SPIKE

Lab Sample ID: AZP9A
LIMS ID: 16-6385
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	32.4	55.9	25.0	94.0%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

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INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: BLW-GW-MW35
DUPLICATE

Lab Sample ID: AZP9A
LIMS ID: 16-6385
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	32.4	31.7	2.2%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: AZP9LCS
LIMS ID: 16-6403
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	23.8	25.0	95.2%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

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INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: AZP9MB
LIMS ID: 16-6403
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1507.1
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	7440-38-2	Arsenic	0.2	0.2	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-SW-5-F
SAMPLE

Lab Sample ID: AZP9F
LIMS ID: 16-6390
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	0.4	**8.2**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-SW-2-F
SAMPLE

Lab Sample ID: AZP9J
LIMS ID: 16-6394
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	**7440-38-2**	**Arsenic**	1	**9**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-SW-3-F
SAMPLE

Lab Sample ID: AZP9M
LIMS ID: 16-6397
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/04/16	**7440-38-2**	**Arsenic**	1	**8**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

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Sample ID: BLW-SW-5-F
MATRIX SPIKE

Lab Sample ID: AZP9F
LIMS ID: 16-6390
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	8.2	33.2	25.0	100%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

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Sample ID: BLW-SW-5-F DUPLICATE

Lab Sample ID: AZP9F
LIMS ID: 16-6390
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M 1057.1
Date Sampled: 04/21/16
Date Received: 04/22/16

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	8.2	8.7	5.9%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: AZP9LCS
LIMS ID: 16-6397
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.5	25.0	98.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

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Sample ID: METHOD BLANK

Lab Sample ID: AZP9MB
LIMS ID: 16-6397
Matrix: Water
Data Release Authorized:
Reported: 05/05/16

QC Report No: AZP9-Floyd-Snider
Project: B+L O+M
1057.1
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	05/02/16	200.8	05/03/16	7440-38-2	Arsenic	0.2	0.2	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation